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CONTENTS

This issue dated November 3, 10 & 17, overcomes the arrears of news held up by the 31 days' stoppage of work by London compositors. Next week's issue will be dated November 24 and that week and thereafter we hope to be in full normal weekly production again.

Mr. Alfred Barnes on Waste in Transport

THE 31st Anniversary Luncheon of the Institute of Transport, which was held on November 8, was noteworthy in two respects. The first was the very large number of prominent members of the British transport and other associated industries who attended the function, over which Mr. J. S. Wills presided. The second was a somewhat peculiar statement by the Minister of Transport. With Field-Marshal Sir William Slim, Chief of the Imperial General Staff and formerly Deputy Chairman of the Railway Executive, he was one of the two principal speakers at the luncheon. Mr. Barnes gave it as a general opinion he had formed during the time he had been closely associated with the transport industry that more labour, more capital and more resources were invested in transport in this country at the present time than was justified by the value that the nation obtained. He admitted that he was not able to adduce any evidence or statistics to support this view, and, in a speech of some length, he did not define more closely what he had in mind, apart from saying he thought that transport was a service that could run to considerable waste from time to time. Vague critical statements of this kind, coming from the responsible Minister, might reasonably be expected to be supported by something more than the "general opinion" of one person, however eminent. At the present time, when a number of criticisms are being made of British nationalised transport on the ground they could be administered with greater economy, it is a pity that the Minister of Transport should utter a generalisation of this kind without giving detailed reasons. In any event, as ultimately he is responsible to Parliament for the economic and efficient conduct of the nationalised transport system, his criticism has a double edge. He may have had in mind, of course, the vast increase which has occurred in road services in the last forty years, during which time there has been an increase of about four million vehicles on the roads. This has resulted in a vast duplication of transport facilities, which, presumably, it is part of the objective of the present transport administration to put right. So far as the railways are concerned, the very tight grip which the Treasury is keeping on what it deems to be capital investment may well be having an adverse effect on the value which the nation obtains from the capital assets already in being. It can hardly be suggested that maintenance and renewals on British Railways are at too high a level at the present time, or, indeed, that capital works are above the very barest minimum.

Lord Royden

LORD ROYDEN'S death on November 6, at the age of 79, has reduced still further the ranks of Chairmen of the former railway companies. Since railway nationalisation on January 1, 1948, the death has also occurred of Lord Portal, who was Chairman of the Great Western Railway Company at the time of transfer. Lord Royden's connection with the London Midland & Scottish Railway Company and its constituents dated from 1909, when he became a Director of the Lancashire & Yorkshire Railway, and his Chairmanship of the L.M.S.R. extended throughout the greater part of the second world war. From the 1923 grouping until he succeeded the late Lord Stamp as Chairman, Lord Royden was a Director of the L.M.S.R. and his direct association with the company ended in 1946 only when he felt that a younger man should take up the fight against railway nationalisation. Apart from his railway connections Lord Royden had extensive business interests and was an expert on shipping and commercial matters. He became a Director of the Cunard Steam-Ship Company in 1905 and in 1922 was elected Chairman of the company; though he subsequently resigned the Chairmanship, he continued to serve on the board. Despite his extensive business activity, Lord Royden had a number of private interests and did much philanthropic work in the North of England. He was raised to the peerage in 1944.

The Transport (Amendment) Bill

THE private bill, the Transport (Amendment) Bill, introduced by Lord Teynham and given its first reading in the House of Lords on November 2, provides for the increase from 25 to 60 miles of the radius of road hauliers' operations which may be undertaken without a permit, transfer to the licensing authority of the powers of the British Transport Commission to grant and refuse road haulage permits, and abolition of the B.T.C. powers to acquire road haulage undertakings operating under "A" or "B" licences. The bill shows realism in retaining for the Road Haulage Executive carriage of traffic outside the 60-mile radius. As the first of these provisions, if they became law, would give the hauliers an increased nuisance value and, in the sphere of transport as a whole, the bill would undo much of what has been done since 1945, and of what the Commission plans to do, its chances of becoming law obviously are remote, at least for some time to come.

Wages and Prices

WHEN the Labour Party held its annual conference at Margate last month, although the needs of the defence programmes seemed to be appreciated by most of the delegates, there were threats of further experiments in

nationalisation at some time in the future, coupled with insistent demands for a reduction in the cost of living and a continuation of the attacks on industrial profits. Even now there would appear to be little appreciation by the rank and file of the workers and their leaders that without profits nothing is available for ploughing back into industry and that the cost of living must be adversely affected by an increase in wages at the present time. Sooner or later increases in the cost of goods and services must be passed on to the customer and in the case of transport charges especially any increase must have an accumulative effect on the cost of living in general. That the true financial position of British Railways is not appreciated was shown by the fact that, despite the recent concessions to lower paid workers, the A.S.L.E.F. gave notice of a dispute arising out of the rejection of its claim for an increase of 15 per cent. for all grades. Last week we reported that the Minister of Labour had ruled that means already existed for settling the dispute and as a result a consideration of the matter was begun by the Railway Staff National Council on November 7.

Overseas Railway Traffics

DURING September a £2,452,000 advance to £17,366,000 in operating revenues of the Canadian National Railways was accompanied by a £869,000 increase in operating expenses and net revenue for the month amounted to £2,914,000, as compared with £1,331,000 for the equivalent period of 1949. On the aggregate the improvement in operating revenues by £10,339,000 greatly exceeds the £863,000 advance in expenses. C.N.R. net revenue for the current 39 weeks is now £9,476,000 higher at £11,606,000. Canadian Pacific gross earnings improved during September, and though working expenses were higher, net earnings were up by £903,000 at £1,642,000. The total advance in gross earnings since January 1, however, is only £1,733,000 at £90,971,000, and the improvement to £6,870,000 in net earnings is accounted for by a decrease in expenses. Gold Coast traffics for the month under review advanced by £11,248 to £217,274, though receipts for the current 27 weeks are still £10,950 lower at £1,387,568. Dorada receipts during September were £8,687 higher and on the aggregate have improved by £88,794 to £353,824.

Loan for Ceylon Railway

IN his recent budget speech, Mr. J. R. Jayewardene, Ceylon Minister of Finance, stated that for the financial year ending September 30, 1951, the Ceylon Government Railway had budgeted for a deficit of Rs. 7,262,092, and that the estimated working expenditure was Rs. 64,762,092, against a revenue estimate of Rs. 57,500,000. A sum of Rs. 19,904,000 is to be lent by the Government to meet the cost of renewal and capital works, such as improvements to, and strengthening of, the permanent way, bridges, and other railway structures, additional buildings for workers, remodelling of stations to conform to modern requirements, new signalling equipment, locomotives and rolling stock, plant and machinery, and amenities for passengers at stations. An amount of Rs. 10,111,280, to be met from the railway deferred maintenance reserve account, is also provided on account of arrears of maintenance during the war in respect of locomotives, boilers, and rolling stock.

British Transport Commission Statistics

APART from the 24 per cent. increase in coal traffic receipts, which was commented on in our last issue, the main railway feature of the British Transport Commission statistics for the ninth four-weekly period ended September 10 is the now familiar decline in passenger traffic. British Railways monthly return ticket receipts for July were down by nearly 20 per cent. compared with July, 1949, and the receipts from tickets of other descriptions (13 per cent. of all passenger ticket takings, and largely concessional ticket receipts) down by 17 per cent. For Period 9 London Transport bus takings were 3 per cent. below last year's figure. This is not of course incompatible with the 9 per cent. rise in nationalised (provincial and Scottish) bus takings, which latter, with the decline in railway passenger receipts, indicates loss of traffic by rail to road outside London. The 9 per cent. rise compared with last year of dock receipts is partly explained by the increase in May, 1950, in dock and harbour dues, tonnage handled having risen by 6 per cent.

International Railway Congress Reports

BEFORE and during the Fifteenth International Railway Congress held recently in Rome, there were published in this journal digests of a selection of the reports submitted to the Congress and summarising answers to the questions addressed by the Congress Association to member railway administrations. It would not have been possible to give digests of all the many reports, each of which dealt with some question which was bound to interest many. Those were chosen which seemed, in their subject matter or in the treatment of it, to be of the most interest to readers of *The Railway Gazette*. Unfortunately the printing dispute has delayed publication of four digests until the Congress was over; but as these are concerned with questions, such as marshalling yard operation, which proved to be of particular interest to the delegates, they are given elsewhere in this issue for the benefit of those readers who have not been directly concerned with the Congress.

Accidents on British Railways, 1949

A SUMMARY of the report of the Chief Inspecting Officer of Railways, Lt.-Colonel G. R. S. Wilson, covering accidents in 1949 on British railways, appears in our news pages this week, and will be dealt with at greater length in a future issue. This report—the first issued by Lt.-Colonel Wilson—shows that no passenger was killed in a train accident in 1949, for the first time since 1908. Movement accidents other than train accidents resulted in 44 passengers being killed as against 48 in 1948 and the principal causes were misadventure or carelessness on the part of the passengers themselves. Deaths and injuries among railway servants numbered 188 and 2,625. The report states that a general decrease in the overall number of casualties was due to greater safety in operation, but, though accidents caused by technical defects were fewer, there was not a corresponding decline in those resulting from failure of the human element. There appeared to be no reason why the good record of 1949 should not be kept up this year, despite certain factors which are retarding progress, including a shortage of materials and skilled manpower, while increasing safety is expected from the very comprehensive organisation set up by the British Transport Commission to expand the research pursued by the former main-line companies.

Rail and Road Rolling Stock Repairs

SHORTLY before the Transport Act, Northern Ireland, 1948, became law the boards of the Northern Ireland Road Transport and Northern Counties Committee agreed to the provision of a scheme which would centralise mechanical engineering and servicing facilities for rail and road rolling stock and motive power. The site selected at Duncrue Street, Belfast, was on property already owned by them, and this, with the purchase of four acres of private land provided an excellent site adjacent to existing railway shops. The new workshops, which were opened officially by Major F. A. Pope, Chairman, Ulster Transport Authority, on October 4, to which reference was made in our issue of October 20 & 27, provide for fully co-ordinated construction, repair, and servicing of rolling stock. The main workshops are provided with mechanical handling equipment, and the road running shed, with a single span of 120 ft. and a floor area of 37,260 sq. ft., incorporates a sunken workshop with modern equipment

to ensure expeditious turn out of running repairs. The layout of the shops is such as to cater for future development, at the same time retaining the production flow, a feature of considerable importance. Further details of the new workshops are given elsewhere in this issue.

Mr. Holmes of Baker Street

SOME celebrated personalities have broken a long silence in recent weeks to contribute to the correspondence columns of *The Times*, among them being John H. Watson, M.D. The doctor joined with others in deploring the suggestion by a Marylebone councillor that mementoes of the career of Mr. Sherlock Holmes ought not to be the central feature of the borough's Festival of Britain exhibition. Many resent any step calculated to weaken the link between Baker Street and the great detective who made it his home, and it was only the distraction of war that enabled his name to be removed in 1943 from an electric locomotive of the former Metropolitan Railway without provoking an outcry. There is consolation in the fact that the nameplate helped the drive for scrap metal, and may have contributed to the discomfiture of the country's enemies as materially as Mr. Holmes himself when he recovered the stolen plans of the Bruce-Partington submarine. In the light of that adventure and several others, it is appropriate that the site of the Holmes domicile has been identified near the Lost Property Office of the London Transport Executive. No doubt this organisation maintains the traditional Baker Street efficiency in reuniting owners with their missing valuables, though possibly lacking the nice dramatic sense displayed by Mr. Holmes when, having retrieved the purloined naval treaty, he had it served up to its rightful guardian for breakfast on the same tray as a dish of curried chicken.

British Transport Staff Relations

THE satisfactory nature of the machinery of negotiation between each of the Executives of the British Transport Commission and its employees was emphasised by Mr. Frank Gilbert, Principal Staff Officer of the British Transport Commission, in his paper on staff relations presented to the Northern Ireland Section of the Institute of Transport on October 19. Outlining this machinery, and demonstrating the differences in procedure where they occur in the Executives, he stated his opinion that the machinery has been, and is being, used well, despite occasional unofficial stoppages. Only by using to the full the opportunities for negotiation provided can unofficial strike action be avoided, and compliance with prescribed procedure saves time in the long run. Mr. Gilbert stresses the responsibility of individual Executives in the conduct of negotiations; the duty of the Commission lies in ensuring co-ordination.

Regarding joint consultation, which is often regarded as a new discovery and a panacea, Mr. Gilbert points out that it has been practised on British railways for over 30 years, though it has come into greater prominence since nationalisation; then the British Transport Commission within a few months established the British Transport Joint Consultative Council, to provide for the exchange of information and views between the Commission and the Executives on the one hand, and the trades unions on the other, on general matters not within the scope of the joint negotiating machinery for the Executives. Referring to the development of a carefully planned system of joint consultation agreed between the Executives and the Unions, he comments on the growth in a relatively short time of a better spirit between management and staff at various levels, particularly in British Railways.

Among the many measures taken for training and education of the staff the initial vocational and background training of new entrants is one of the most important. Well written and illustrated booklets are distributed by the Executive concerned to new recruits, supplemented by interviews conducted by responsible officials. Whilst acknowledging the good work of existing schemes of training, Mr. Gilbert would like to see a closer connection between them and the Institute of Transport, whose members together have a wealth of knowledge which should be accessible to those of the younger generation willing to learn. He comments in passing on the absence from the syllabus of the Institute examinations of the subject of transport staff relations. In staff welfare, in addition to the provision by the Executives of canteens and other amenities and to the encouragement of sports and social and cultural activities, the Joint Advisory Council for Welfare of the Railway Executive is an important step in enlisting the co-operation of the unions in these matters. Lastly he mentions the work of the various Commission and Executive staff publications, not only as news records but to foster the sense that each employee really counts, and is essential to the success of British transport.

In his paper Mr. Gilbert could do no more than hint at the existence of many other aspects of staff relations, such as the advertising of vacancies, promotion and redundancy schemes, disciplinary procedure, conditions of service, suggestions schemes, and first-aid instruction. He claims that those responsible for the management of British Transport staff fully realise the need to give opportunities for advancement to all who can benefit from them, as well as to provide fair pay and reasonable conditions within, however, the capacity of the industry; he emphasises the need for economy, and the fact that nationalisation "has provided no bottomless purse from which mounting labour costs can be paid." Despite this handicap, and despite a need in some parts for a greater sense of responsibility or for a greater degree of discipline, he holds the view that among the 900,000 employees of British Transport, good staff relations generally do prevail.

Gold Coast Railway

THE year ended March 31, 1949, for which the report of the Gold Coast Railway & Takoradi Harbour has been sent to us by Mr. W. H. Salkield, General Manager, saw no interference with working through labour disputes. The increase in tonnage handled was principally in timber and manganese ore: and the report points out that movement of the additional loads with only one additional locomotive placed in service and with much obsolete and over-age machinery reflects the greatest credit on the locomotive department. The fall in passenger traffic was due partly to the preference given in the interests of economic development to goods traffic within the limited capacity of the railway, and partly to increased road competition. Although the supply of locomotives, rolling stock, machinery, and steel works caused concern at the beginning of the year, a visit to the United Kingdom by the General Manager resulted in better hopes of early deliveries, and 20 additional locomotives were ordered. The new passenger and goods tariffs were put into effect on April 1, 1949. Third class passenger fares were raised from 0·5d. to 0·75d. per mile. Goods rates were generally increased by 10 per cent.; no change was made in the rates for native foodstuffs; and the number of classes of general goods was raised from three to five. Steamer passenger traffic through Takoradi Harbour much increased, despite development of air travel between West Africa and Europe. The following are some of the principal results:—

	1947-48	1948-49
	Thousands	
Railway		
Goods tonnage conveyed ...	1,424	1,675
Passenger journeys	6,338	5,236
	£ thousands	
Goods receipts	1,167	1,668
Passenger receipts	408	472
Gross receipts	1,691	2,250
Operating expenditure	1,430	1,714
Takoradi Harbour		
Revenue	325	402
Expenditure	132	161

The report draws attention to the "long and expensive development programme" which will make heavy demands on the railway's financial resources. Contributions to the renewals fund, it is pointed out, were previously underestimated, and insufficient attention paid to the rising cost of replacements. The wasting assets are being revalued, which will show what additional contributions are needed.

To allot freight tonnage priorities in timber traffic, the Rail Allocation Committee comprising delegates of the various interests involved, met monthly, but at the end of the year were still faced with movement demands for 60-70,000 tons against 12,000 tons space available. Plans for the Takoradi Harbour extension were completed, and survey work completed for the doubling of the line from Takoradi Junction to Tarkwa.

African Transport Conference

IN 1936 the Government of the Union of South Africa convened a Transport Conference which was held in Johannesburg in September of that year. All Southern and Central African Territories were represented, and now, 14 years later, a similar conference opened on October 25 in Johannesburg with the title of the Central & Southern Africa Transport Conference.

It arises out of an international conference on Central African Transport which took place in Lisbon during May, 1949, between the European powers with territorial possessions in Africa. The Union of South Africa also took part in the discussions and the United States of America was represented by observers.

The Lisbon Conference was convened by the Portuguese Government and was intended as a preliminary conference to prepare the ground for a subsequent full-scale conference in Africa to deal with the problems of the development and co-ordination of transport routes and facilities in Central and Southern Africa. Further preliminary discussions on the subject took place at a special meeting held in Paris under the auspices of O.E.E.C. during February and March, 1950.

At Lisbon, it was decided that Johannesburg should be the venue for the Plenary Conference which is now sitting and to establish an interim organisation to undertake the preparations for this Conference. This body was duly created by the Government of the Union of South Africa as the host government of the present Conference, and in February this year Mr. Marshall Clark, then General Manager of the South African Railways, was appointed Secretary General. In a recent statement issued by the Union Government on behalf of the European and African territorial governments concerned, the appointment of Mr. Marshall Clark as Secretary General of the Johannesburg Conference was announced.

The geographical scope of the conference comprises the Union of South Africa and South West Africa; Southern and Northern Rhodesia; the British High Commission territories in the Union of South Africa (Basutoland, Bechuanaland and Swaziland); Nyasaland; Kenya; Uganda; Tanganyika; Mozambique; Angola; the Belgian Congo; French Equatorial Africa and Madagascar. All the territories mentioned, as well as the European powers concerned, are represented at the Conference, and some 100 delegates are attending. The United States of America again has observers at the conference. The British delegation is headed by Sir Evelyn Baring, High Commissioner for the United Kingdom in the Union of South Africa.

The main purpose of the conference is to receive and consider plans for the development of inter-territorial and international port and transport facilities in the area within the purview of the conference; to make recommendations for the correlation and co-ordination of such plans; and to examine proposals designed to facilitate the movement of inter-territorial and international traffic on both existing and projected lines of communication. The Conference is also considering establishing permanent machinery for co-ordinating and advising on the development and operation of inter-territorial and international transport in the territories concerned.

To ensure that the conference has before it all the necessary information, the Interim Organisation has, in addition to other preparatory work, circulated to governments detailed questionnaires dealing with railways, roads, marine ports and inland waterways. Much of the information called for was circulated to the governments before the conference. In addition, the Secretary General, Mr. Marshall Clark, visited all the capitals of the countries taking part, to discuss various aspects of the agenda and preparations for the conference.

The conference, which was opened by Dr. D. F. Malan, the Prime Minister of the Union of South Africa, is being held in the Johannesburg station building, an entire floor of which was specially prepared and fitted for the purpose. In view of the length of the conference and the hard work which it necessarily entails for delegates and staffs, provision is made in the official programme for entertainment and sightseeing.

A Defence of Nationalised Transport

A VIGOROUS defence of British Transport Commission performance and policy and a plea for a fair trial of its services were the theme of the speeches which the Chairman of the B.T.C., Lord Hurcomb, took the opportunity to make on his inspection tour of transport installations in Yorkshire last week. Speaking at a dinner of the Hull Incorporated Chamber of Commerce & Shipping, he said that the Commission did not consider that the deficit incurred in the first three years of necessary and arduous reconstruction was the measure of the outcome of its policy; it was the result of a time-lag in the adjustment of charges to the rising cost of the materials and services which the Commission had to buy.

In 1949, said Lord Hurcomb, the B.T.C., after meeting all operating expenses and depreciation, had a favourable balance. In an ordinary business that would have been available for distribution to shareholders. The Commission has, unlike the old railway companies, to pay the full interest rate on all its stocks. He did not, however, mention the regularity with which the companies met their debenture and similar obligations. Economies effected tend to be submerged by the rising tide of labour and material costs, whilst the charges to transport users are still only 60-80 per cent. above pre-war. Costs, said Lord Hurcomb, are still rising, and if the demands of the trades unions were conceded by or forced on the Commission, they would add many millions a year to its outgoings.

In the midst of this, the B.T.C. must operate commercial services in an atmosphere of controversy damaging to its traffic. Many critics, states Lord Hurcomb, ignore all that has been done in three years, but make the most of every defect. In view of the magnitude and urgency of present economic and transport problems, he deprecates partisanship and calls for greater objectivity—whilst hinting, in passing, at the rivalries in the pre-war transport industry, which the integrated transport system at which the Commission aims must excel.

Referring to the scheme of integration announced last July, he emphasises once more that freedom of choice must be left to the transport user provided he pays the proper price for the service he prefers, and that the application of principles to local and particular operations must be worked out by local officers with particular experience: here Lord Hurcomb has forestalled many critics.

The result of historical development is that the country now has two or three technically efficient forms of surface transport, the relationship of which is an unsolved problem. The Commission is seeking to solve that problem along the lines which it believes to offer the best prospects of solution.

Regarding road hauliers he maintains that the B.T.C. has only been consistent with its policy of eliminating waste in transport, and fair to hauliers. It is simply carrying out, without undue haste, its duty, and in a manner which will result in better service. If State-owned railways, he adds, however organised, are not integrated with road transport, the evil consequences (including colossal railway deficits) apparent in other countries will result. Traders must give nationalised transport a fair trial, for without such support those who must depend upon public transport will have to pay more for it; the best way to keep charges down, or reduce them, is to improve and maintain the load factor.

The G.N.R.(I.) Crisis

AFTER a meeting of the board on November 8, the Great Northern Railway (Ireland) announced that it had informed the Northern Ireland Minister of Commerce that its stockholders had to be advised that it "would be improper for the company to carry on business after the close of its financial year on December 31, 1950." A copy of the letter was sent to the Department of Industry & Commerce, Dublin.

The announcement states that it is estimated that by December 31 next the company's surplus of liquid resources will be down to £230,000. It cannot rely on possessing liquid resources after the first few months of 1951. Commitments exist amounting to £204,000. For carrying on business in 1951, if the system is not to decay and many employees become redundant, contracts would have to be entered into now for materials amounting to £103,000 and others early in 1951 involving a further £33,000.

The company has received only two suggestions for alleviating the position. One is "economies by co-ordination," discussed by the Northern Ireland House of Commons on October 18 and 25 last. The General Manager of the G.N.R.(I.) concludes that the most this could in time achieve would be a reduction of 10 per cent. in the combined losses of the G.N.R.(I.) and the U.T.A. The U.T.A. Chairman is understood to share this opinion.

The other suggestion is the transfer of the U.T.A. road freight services to the G.N.R.(I.) in the latter's territory. As those services are operating at a loss, the first effect of the transfer would be to leave the G.N.R.(I.) with that loss to overcome added to its own loss of £250,000 a year. The G.N.R.(I.) General Manager, following a conference with the Chairman of the U.T.A. on this suggestion has supplied a report to the Board which concludes: "It will be obvious, therefore, that these proposals . . . . could only be expected to produce results which would reduce to some extent the loss in working the undertaking in Northern Ireland."

The G.N.R.(I.) view is that the only two thorough-going courses are either to acquire it or to transfer to it all road services in its territory. The Government seeks the "continued existence and prosperity" of the G.N.R.(I.) by means which would merely palliate its distress. Pending a thorough-going plan the Company can only point to its immediate need which is, simply, for adequate cash if business is to be carried on in 1951.

Locomotive Testing on British Railways

IN a paper dealing with locomotive testing on British Railways, read to the Institution of Locomotive Engineers on September 20, Mr. D. R. Carling, Superintending Engineer, Locomotive Testing Station, Rugby, referred to the testing equipment developed by the former railway companies, and gave in considerable detail results of tests recently carried out. In the past, locomotive testing was largely directed to the requirements of the C.M.E. to obtain information of assistance in the design of new locomotives or the rebuilding or modification of existing ones.

Occasionally, tests were carried out to investigate some specific operating problem or to compare different methods of working the locomotive, but it was not until in fairly recent years that the idea gained ground of using the testing equipment available in such a way that actual operation of the railway as a whole could also be based on real knowledge of the most economical method of using locomotives and of the cost of departing from the most economical method, in order to meet other commercial and operating requirements. The reasons why this latter aspect of testing has only been recognised at its full importance in this country relatively late in the day, are most likely the former abundance of the best fuel at low cost on the one hand, and the fact that, in general, the equipment available, and the methods of using it, were inadequate. Test equipment on an adequate scale is relatively expensive to provide and to use correctly, so that only a few of the larger, or wealthier, and more farsighted of the former railway companies of pre-grouping days had any testing equipment beyond a few indicators, thermometers, and pressure gauges. Experience abroad has shown that expenditure on testing and in applying the results in practice, has been amply justified.

The whole object of locomotive testing of all kinds is to make such parts of railways operation as are affected by the motive power employed as safe and effective and as economical as possible; in other words, to provide the best service at the lowest cost. It is by using each type of testing instrument in such a way that its inherent characteristics are correctly utilised and that its own limitations, or those imposed by the circumstances of its use, are not forgotten, that the best results are obtained. The dynamometer car has been the principal item of locomotive testing equipment for well over a century, but stationary testing plants and the mobile testing plant have been added. As their full potentialities come to be appreciated and the techniques required for their proper use are developed, the older methods of testing will be largely supplanted, and it would seem that the use of dynamometer cars alone will in the future be much more limited, and much of the work formerly done with them will be taken over and performed more systematically by the stationary and mobile testing plants. This does not mean that dynamometer cars will not be used. One forms an important portion of the mobile testing plant, and a car running alone may be used to advantage in conjunction with a stationary testing plant. The sort of test often carried out in the past with a dynamometer car will, however, most likely be almost entirely eliminated in due course. From the design point of view one of the most important functions of locomotive testing is the investigation of the correct proportions or dimensions for all sorts of details.

In particular this can lead to great improvement by the modification of existing locomotives, which have a long and useful life still ahead of them. The more numerous the class of locomotive the greater benefit to the railways as a whole results from a given amount of testing. It has often been the case all over the world, that locomotives have been considered as entirely satisfactory for years, but when submitted to proper testing they have been found capable of considerable improvement.

This does not refer to "standardisation" but to the establishment of well-founded criteria, against which the actual proportions or performances of locomotives can be set for comparison. The basic object of scientific train timing is to increase both the economy and the reliability of the train service, since it will dispose of such anomalies as sometimes exist, such as successive stretches timed far too tightly and quite unnecessarily easily, or *vice versa*, while at the same time indicating not only what timings can be expected as a maximum effort in case of need, but also what timings give the greatest economy in operation in so far as these are compatible with commercial requirements.

Each of the former railways had its own organisation and staff together with a skeleton staff. The Rugby Testing Station also existed at the time of nationalisation, and each company also had certain tests in progress, authorised or proposed. It was clearly desirable for the whole of the testing to be co-ordinated, not only to prevent unnecessary duplication, but to make the best possible use of the whole equipment available, each item being used to the best advantage in conjunction with the others. To this end a special committee was formed, being one of the Mechanical Engineering Policy Committees set up by the Railway Executive Member for Mechanical & Electrical Engineering under the name of "The Locomotive Testing Committee." This committee first met in January, 1948, and consisted initially of four members, one representing each of the Chief Mechanical Engineers. Additional members were added later to represent the motive power departments, the research department of the London Midland Region, and the Rugby Locomotive Testing Station. More recently the committee has been reconstituted under the chairmanship of the Executive Officer (Design) of the Railway Executive.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Railway Efficiency

October 6

SIR,—Whilst without any intention of entering the lists—either for or against the present regime—on this matter, I should be interested to have further information from Mr. Roberts on the second paragraph of his letter in your September 29 issue. He says that before "controls" existed the railways dealt with 100 million tons more—presumably he means per annum—and *hundreds of millions* more passengers—again presumably per annum.

As no doubt Mr. Roberts has chapter and verse for these sweeping statements, perhaps for the information of those less fortunately situated he would give us the originating tonnages and numbers of passengers carried for a specific year before "controls" were introduced compared with the corresponding figures for the year 1949.

To the uninitiated, it is a little difficult to see what bearing the number of *passengers* carried has on the question of the efficiency or otherwise of "control."

Yours faithfully,

J. H. LAUNDY

Rustington, Sussex

Timetable Maps

October 5

SIR,—The map appearing in the British Railways timetables has often been criticised, but I have seen no mention anywhere of the fact that one line at least that is marked on it is no longer in existence, nor has it been for many years.

Between the wars (I do not know the exact date) the part of the Malmesbury branch of the Great Western which lay between the Bath and Badminton lines, was removed, Little Somerford becoming the junction for the branch in place of Dauntsey. However the whole line is still plainly marked on the map.

In contrast, there are several Western Region branches that are not marked, such as the Culm Valley line in Devon and the much shorter Abingdon and Woodstock branches near Oxford.

In the summer timetables the Southern Region returned to its pre-nationalisation map which was a great improvement. It was unfortunate that the Western Region could not have followed its example, as the map of the old Great Western left little to be desired from the point of view of clarity, and showed the whereabouts of every station.

Yours faithfully,

P. W. B. SEMMENS

Great Ayton, Middlesbrough

Steam Distribution on Colonial Railways

October 6

SIR,—In reply to the questions by Mr. Bulkeley in your issue of September 29, I have to say that the formula $500\ DVL - Md^2S$ does not tie dimensions rigidly, as it imposes only one constraint on a combination of five. It does not imply that the lap should be a constant multiple of valve diameter. From other considerations, however, it appears that the lap should be as large a multiple of the valve diameter as possible up to a limit of about 0.2, beyond which the cross-sectional area of the liner, rather than the area of maximum port opening, tends to become the ruling restriction on exhaust.

The broad basis of the formula is that at any particular cut-off, the area of port opening for admission is proportional to VL, the time for which the port is open is proportional to D/M and the cylinder volume to be filled is proportional to d^2S.

To ensure certainty in starting is simply a matter of providing sufficiently long valve travel in full gear. On an engine with cranks at 90 deg., a maximum cut-off of 75 per cent. will suffice, but some increase in starting effort is obtained by increasing the maximum cut-off to about 90 per cent. Whether it is worth while to build the valve gear to accommodate the long travel necessary for that purpose is rather a matter of opinion. For 75 per cent. cut-off the valve travel is about four times the lap and for 90 per cent. cut-off it is as much as seven times the lap.

The proposal, mentioned by Mr. Bulkeley, to give a piston-valve motion that is markedly non-harmonic, was described in *The Railway Gazette* for September 25 and October 2, 1942, and similar proposals have been made elsewhere. The advantage of such an arrangement is simply that at any particular cut-off and speed, the ratio of mean effective pressure to steam-chest pressure is somewhat higher than could be attained with the conventional piston valve. That advantage can, however, be offset by adopting a higher nominal tractive effort for the piston-valve engine, *e.g.*, by using larger cylinders, and on the whole I believe that, because of the simplicity of the associated valve gear, the piston valve is to be preferred, provided the dimensions of valve and valve gear are appropriate to the average duty of the locomotive.

Yours faithfully,

W. A. TUPLIN

390, Wakefield Road, Huddersfield

Third Class Sleeping Accommodation

October 7

SIR,—I have been interested in the suggestion put forward in *The Railway Gazette* of September 29 that third class sleeping compartments convertible for day use should be run on night trains to holiday resorts at weekends.

As has been already pointed out in your columns, it is doubtful if the provision of such accommodation is really a paying proposition these days, as such cars cost more to build, and have only half the passenger capacity of an ordinary compartment, when used at night. Furthermore, separate accommodation has to be provided for hand luggage, as racks over the seats are not possible.

Would it not be a good idea for a trial to be made of what in America are called "reclining chair cars"? These follow the lines of the ordinary "day cars" with two seats on each side of a central corridor, but the reversible seats can be adjusted for tilt and have special head and foot rests. Such seats should be much more comfortable for night travel than the upright immovable seating accommodation to be found universally in Great Britain, where it is almost impossible to get a comfortable rest without lying full length along the seat, which is not feasible if there are more than two passengers in the compartment.

I understand that these reclining chair cars are regularly run on certain long-distance night trains in America for passengers not wishing to go to the expense of sleeping berths. In view of the smaller loading gauge in this country, it would probably be better to arrange the seats two and one on each side of the central corridor, and a small extra charge could be made for their use. Such coaches would be readily suitable for day use when required.

A source of additional revenue that might be explored by British Railways is to make an additional charge for van luggage. Such luggage is not carried on the competing road services, and requires additional accommodation on trains, so why should not the passenger pay? Tickets, like those required for cycles could be issued for each piece of luggage up to, say, a weight of 50 lb. on a zone mileage system, with a sliding decreasing scale for the longer distances.

Yours faithfully,

H. FAYLE

13, Montague Road, Boscombe

THE SCRAP HEAP

Only Eleven Dead Men!

Out of 15,998 cases—223,972 bottles—of whisky despatched by rail during a recent month from Kilmarnock, only 11 bottles were broken.—*From the "British Railways Magazine."*

Integration

Long ago co-ordination was good enough for us, now we are getting so many interpretations of integration that we will have to integrate these definitions.—*P. O'Kelly in "Weekly News," published by Coras Iompair Eireann.*

Swallows May Migrate by Train

A flock of swallows, which waited too long before winging their way south to winter sunshine, is being cared for by bird-lovers in Nakskov, Denmark. They may send the swallows to Southern Europe by train if the cold continues.—*From "The Yorkshire Post."*

Misleading Clocks

A reference to the inaccuracy of London clocks brings to my mind an incident which happened, not so very long ago, to a friend of mine while travelling in Eire, this delightful country, where, as has been said with some truth, the impossible always happens and the inevitable never occurs. Finding himself one day in a large railway station he noticed that there were three clocks all keeping different time, so he pointed this out to a porter and suggested that it might be a good thing to have them put right. The porter countered with the quite unanswerable statement: "Well now, if they were all keeping the same time we wouldn't be wanting more than one."—*Lord Teignmouth in a letter to "The Times."*

Railway Travel Conscience

Unpaid railway fares seem to be a frequent cause of twinges and the predecessors of British Railways were fairly well accustomed to the receipt of such reparations as the 8s. sent to the stationmaster at Paisley by a Scotsman in America in respect of three half-fares for children he had smuggled from Paisley to Saltcoats 20 years before.

Properly functioning consciences, however, can nag for even longer than 20 years. A few years ago the old L.M.S.R. received an anonymous letter from a Doncaster man, who confessed that 46 years before he had carried tools weighing over 60 lb. between Wakefield and Bacup without paying excess fare—in remembrance of which he had "suffered great agony of mind" ever since and now enclosed a postal order in discharge of the debt.

Probably the tenderest railway conscience on record was that of a traveller who—also many years after the offence—remitted four shillings to the L.N.W.R. "as reparation for going into a first class waiting room at one of the stations with only a third class ticket."—*From "The Manchester Guardian."*

0984 9/20

Great Eastern Railway.

Liverpool Street Station,
1st October, 1920.

Memorandum to the Public in connection with the Train Services on the Chingford, Enfield and Palace Gates Lines.

It was generally accepted that services such as were introduced on the above mentioned Lines on the 12th July last were impossible of attainment without the aid of electric traction and automatic signals. They were consequently somewhat of an experimental nature. Now that they have been running for some weeks they are under exhaustive review with the object of introducing such possible alterations as experience has shewn desirable.

It is impossible to completely satisfy all our passengers, for the requirements of some are in direct opposition to those of others. It is my wish, however, to fit our train services, so far as it is possible, to the requirements of our passengers, and there may be some inconveniences of which we are not aware that could, amongst others of which we are aware, be eliminated.

Passengers must know their own inconveniences better than anyone else. Should any passenger, therefore, wish for any reasonably possible alteration in the train services quoted at the head of this memorandum, I shall take it as a favour if such passenger will state the requirement as briefly as possible on the back of this memorandum and hand it to any Great Eastern Station Master, or send it direct to the Superintendent of Operation, Liverpool Street Station.

The space on the back of this memorandum is divided into two portions, the upper for the passenger's name and address and requirement briefly stated, the lower for details, should these be necessary, which is most unlikely; and also for the benefit of those who cannot state a simple requirement without also giving an epitome of their past life and what they intend to do in the future, together with a virulent attack on railway officials in general.

EXAMPLE.

PASSENGER'S NAME—Mr. John Browdie.

ADDRESS—The Cedars, BETHNAL GREEN.

REQUIREMENT BRIEFLY STATED.

More trains calling at St. James' Street and Hackney Downs between 8.0 a.m. and 9.30 a.m.

SPACE FOR ELABORATION.

* I have been a tenant of certain of your arches for the past 40 years and a Season Ticket Holder for quite 30 years, the last 10 of which I have held a 1st Class Ticket. Previous to holding a Season Ticket I travelled third and your carriages were then a disgrace to any railway. They are now, if anything, considerably worse and unless you immediately arrange for more trains to call at both St. James' Street and Hackney Downs, I, together with my Father, Grandfather, etc., will, in future, cease to use your railway and either walk or buy bicycles.

Your train services were evidently arranged by the office boy .....
.....and so forth, to about 4 pages of foolscap.

* It will be noted that the whole of these remarks are redundant and simply confuse the issue.

H. W. THORNTON,
General Manager.

Memorandum issued to passengers by the General Manager of the Great Eastern Railway, after the extensive improvements to its suburban services in the Summer of 1920, *inviting suggestions for alterations. The front of the form bears a specimen answer, and the reverse has a space for the passenger's reply*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

TASMANIA

Accelerated Passenger Services

The Minister for Transport has described the introduction of the faster timetables on the day expresses between Hobart and Launceston as a further development in Government policy to bring the railways up to a high level of efficiency and attraction to the public. Travelling time on the day expresses from Launceston to Hobart has been reduced by 45 min. and from Hobart to Launceston by 36 min.

Co-ordination of Hobart Transport

A select committee which recently enquired into the improvement of transport services with the suburban area of Hobart recommends the setting up of an advisory committee to co-ordinate existing passenger services, and to deal with improvements and additions to such services, including the creation of new routes and a uniform policy in regard to fare schedules.

WESTERN AUSTRALIA

Proposed New Wagons

Prototypes of new wagons to be ordered by the Railways Commission have been inspected by the Commission, senior railway officials and railway users. The wagons, which were constructed at the Midland Junction railway workshops, are the first of 2,950 wagons required within the next twelve months, the total cost of which is estimated at about £1,250,000.

Tenders for these wagons, called throughout Australia, closed on September 7. If the demand cannot be met in Australia, tenders will be called overseas. Requirements include 1,000 covered louvred vans for carrying perishables, 600 high-sided open wagons for wheat and coal, 500 open wagons with sides of medium height for general purposes, 300 cattle and 300 sheep wagons, and 250 low-sided open wagons for transporting agricultural machinery.

When these orders are fulfilled, the State will still be below its requirements to handle all traffic offering. The new wagons will replace obsolete wagons being scrapped, but each of the new wagons will carry a maximum of approximately 18 tons of wheat or coal, compared with 10 tons in the old type. The present stock of wagons is approximately 11,000, but 67 per cent. are over the economical age. To meet all existing demands, a total of approximately 15,000 wagons is required.

The prototypes inspected are of the high-sided and medium-size types. They incorporate a new type of braking gear, strengthened drawgear, disc instead of spoke wheels, and other advances. The high-sided wagon has side and end discharge, to permit end tippling of bulk cargoes.

NEW ZEALAND

North Island Electrification

Mr. F. W. Aickin, General Manager, states in his annual report to Parliament that, unless a start is made immediately with the electrification of the North Island Main Trunk line, there is a danger that the whole North Island railway system will break down by about 1960. Goods traffic will have grown so much by then that the railways will not be able to cope with it. The theme of the report is "more goods, more quickly, and more cheaply" and electric traction is given as the answer to all these problems.

Electrification of the Main Trunk would cost about £16,000,000, and could be completed by 1960, states the report. If an early decision is not reached and steam operation is continued about £8,000,000 will in any case have to be spent on railway expansion in the near future.

The statement for 1950 shows that 65,452 tons of imported coal and 462,430 tons of native coal were used by the railways up to March 31 of this year. The amount of native coal used last year equalled 16 per cent. of the Dominion's total production. With steam traction in 1961 the coal consumption is estimated at 800,000 tons or one third of the total output.

IRELAND

Proposals for G.N.R.(I.) Future

Mr. G. B. Howden, General Manager, G.N.R.(I.) held his first conference on November 6 with Major F. A. Pope, Chairman, Ulster Transport Authority, on the future co-ordination of the G.N.R.(I.) and the U.T.A. in Northern Ireland. A special meeting of the G.N.R.(I.) board of directors was held on November 8 to hear reports from Mr. Howden, and from Lord Glenavy, Chairman, and other directors, who recently met the Northern Ireland Minister of Commerce, on proposals for the future of the two systems. It was announced that a statement of the attitude of the G.N.R.(I.) to the proposals was expected to be made after the meeting.

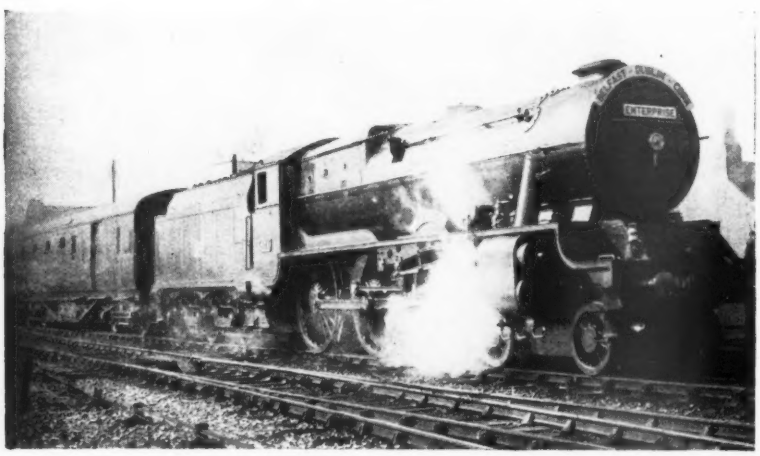
Belfast-Cork "Enterprise" Service

A new "Enterprise" service between Belfast and Cork organised by the Great Northern Railway (Ireland) and Coras Iompair Eireann was inaugurated on October 2. This is the longest regular run in the history of railways in Ireland and it will provide connections for Ulster travellers with the Eire transatlantic shipping and air lines. The trains run non-stop from Belfast to Dublin, where a stop of about 45 min. is made for a customs examination, and another short halt is made at Limerick Junction where a bus connection is provided for passengers to Shannon Airport. At Cork connections can be made to Cobh by passengers embarking in transatlantic liners.

Mr. G. B. Howden, General Manager, Great Northern Railway (Ireland) and of Coras Iompair Eireann, told reporters on the train that, although the new service would be in greater demand during the summer, the companies were gratified by the initial support it had received.

The first Belfast-Cork train left Belfast at 10.30 a.m., arriving at Cork at 5.10 p.m. Before its departure, Mr.

Belfast-Cork "Enterprise" Service



"Enterprise" express leaving Amiens Street Station, Dublin, for Cork, hauled by C.I.E. locomotive No. 800, "Maeve"

R. A. Nelis, Stationmaster, Great Victoria Street Station, Belfast, handed to the guard a letter of greeting to the stationmaster at Cork, Mr. D. J. Kelly, in which he expressed the good wishes of the G.N.R.(I.) in Belfast. A corresponding train which left Cork at 1.15 p.m. carried a similar greeting from Cork to Belfast.

Among those present was Sir George Clark, Deputy Chairman of the G.N.R.(I.). Several G.N.R.(I.) officials, including Mr. Howden, Mr. H. S. Knott, Traffic Manager, Mr. C. Johnston, Hotels & Catering Manager, and Mr. A. M. Beaton, Publicity Superintendent, travelled on the train. At Dublin they were joined by C.I.E. officials, including Mr. P. J. Floyd and Mr. J. T. O'Farrell, directors.

ITALY

New Hydro Power Scheme

A scheme by which the State Railways will increase their supplies of hydro-electric power for traction purposes has been brought nearer to realisation by the formation, at Turin, of a consortium—Società Nazionale Cogne, the State Railways, and the Turin Municipal Electricity Undertaking. It will develop and exploit the water power available in the Upper Aosta valley (east of Mont Blanc).

Società Nazionale Cogne is one of the most important semi-State concerns, with iron and steel works at Aosta; it works the iron ore deposits and only anthracite deposits in Italy, in the region of the Little St. Bernard, south of Aosta. This firm, which already produces electric power for its own use, has required additional power for some time.

The consortium will be able to safeguard the interests of all three partners. Its share capital has been fixed at lire 5,000 million. The main scheme, comprising barrage lakes and interconnected power stations in the Buthier region south of Aosta is to be completed within five years. The completion of this scheme will enable the State Railways to proceed with the extension of electric traction in the north-west, including the electrification of the double-track Turin-Milan main line (95 route-miles) and the single-track line which branches at Chivasso and ascends to Aosta.

WESTERN GERMANY

Typewriter Compartments

The tentative introduction of typewriter compartments in some long-distance trains, mentioned in our May 12 issue, limited at first to five main lines, has proved popular. This has prompted the railways to consider the extension of this service. The original fee for typing, 1½ DM. (approximately 2s. 6d.) for up to fifteen minutes is to be reduced to 1 DM.

Single-Berth Sleeping Cars

Single-berth sleeping cars, mentioned in our June 9 issue, were first introduced on the Hamburg-Frankfurt and Hamburg-Munich routes. Their operation has been extended to the Frankfurt-Munich route, via Heidelberg, Stuttgart, and Ulm.

Prefabricated Concrete Bridge

In the Cologne Region of the Federal Railways, a 150-metre double-track bridge over the River Sieg is being rebuilt. The new arches are formed of prefabricated concrete vaults so that no formwork is required on the site. Each vault consists of 2 × 7 concrete arches, cast in a workshop near the site, brought into position by a crane and subsequently connected by transoms. By this method the construction period is reduced by three months, and the cost by some five per cent.

"Marshall Plan" Train

An exhibition train, known as the "Marshall Plan" Train (Marshallplanzug) was recently inaugurated at Bonn. The venture is in line with an export drive, and the exhibits consist exclusively of samples of articles suitable for export. On its tour through Western Germany the train is to call at some 50 towns.

FRANCE

Reclining-Chair Coaches

The French National Railways have experimentally gutted two steel mainline side-corridor coaches and installed in them adjustable and reversible reclining armchair seats, two on either side of a centre gangway. One coach is reconstructed to accommodate 52 first class, and the other 64 second class passengers. The difference between the classes is that in the first class coach the armchairs have retractable leg-rests, which increases the longitudinal distance between seats.

The chairs were constructed in the U.S.A., and are of types in use on U.S.A. railways; the passenger can adjust the inclination of his seat, which in both first and second class has an adjustable foot-rest. Lighting in fluorescent, and individual lighting for each chair is provided by small movable projectors fitted with shades, fixed in the longitudinal baggage rack above each chair. Heating is by warm air, heaters being worked by steam or electricity.

Publications Received

A History of the Great North of Scotland Railway.—By Sir Malcolm Barclay-Harvey. Second edition. London: The Locomotive Publishing Co. Ltd., 88, Horseferry Road, S.W.1. 8¾ in. x 5¾ in. 231 pp. Illustrated. Price 27s. 6d.—The first edition of this history was published in 1940, but most of the stock was destroyed in the blitz, and it has since been out of print. The present edition includes additional information about the early locomotives, and the withdrawal of G.N.S.R. engines that passed to the L.N.E.R. at the grouping. Another welcome addition is the appendix showing the dates of opening of the main lines and branches, and of the sections of double line. There is no reference in this appendix to the doubling of the Buchan section between Parkhill and Elrick Signalbox, during the first world war, or its subsequent reduction to single track, although the folding map of the system, facing page 1, shows it (incorrectly) as extending from Dyce to Elrick. It is also unfortunate that the map facing page 76 gives the impression that the G.N.S.R. owned the railway from Ferryhill Junction to Aberdeen Joint Station. The approach to Aberdeen from the South was, in fact, owned by the Caledonian Railway, and the Great North exercised running powers for its Deeside trains between the Joint Station and Ferryhill Junction.

Fisher & Ludlow: Centenary Souvenir.—On December 2, 1940, during an air attack, fourteen factories of Fisher & Ludlow Limited in the Midlands were put out of action completely. During that night all the historical records were lost, and, therefore, the story told in this beautifully produced brochure has been reconstructed largely from the recollections of those who have been associated with the firm for many years, and fortunately there are many such. The first tangible historical record of the firm goes back to 1849, when the business was started as a tinmen's furniture shop by a Mr. Fisher, who was joined in partnership by Mr. H. W. Ludlow in 1880. Thus it is a far cry, from the "kettle spout" days, to the extensive plant now occupying over 33 acres of modern factory buildings at Castle Bromwich, Birmingham, built on a site of 143 acres, where steel motorcar bodies, open steel flooring, materials handling equipment, pallets and pallet trucks, storage systems, washing machines, together with many other steel products, are made in large quantities. Since the war the mechanical handling section has been developed greatly. The activities of this firm, which has turned its efforts to war production three times, extend also to Canada. The brochure, which has been designed by Toon & Heath, Birmingham, contains in addition to the letterpress many excellent coloured photographs, as well as artists' impressions of various departments at the works.

Servicing of Roller Bearings.—The care and maintenance of Timken roller bearings fitted to road transport vehicles is contained in Service Manual No. 1500 published by British Timken Limited. This booklet, which is illustrated by diagrams, covers also the machining of bearing seatings and recommended practise for cup and cone fitting, together with useful information regarding service facilities.

The Railway Situation in U.S.A.—7*

Government agencies dealing with transport

(By a Correspondent)

THIS is another of the series of articles summarising statements submitted, on behalf of the Association of American Railroads, to the Senate Committee on Interstate & Foreign Commerce. The previous articles gave the gist of evidence tendered to show that today, when the States are prosperous, the railways are suffering from diversion of traffic and inadequate earnings, due to the unfair competitive situation caused by government subsidies to other forms of transport and by regulatory laws which bear unevenly on the railways and their rivals. The A.A.R. representatives recommended numerous changes in law to redress the balance, but more than changes in the law and its administration are necessary. The Association therefore deputed Mr. J. C. Gibson, Vice-President and General Counsel, Santa Fe Railway, to clinch its case by lodging a statement on the "Reorganisation of Government Agencies dealing with Transportation." His text was the "need for an agency somewhere in the government charged with the duty of making continuous surveys of the over-all transport picture and of making periodical recommendations to Congress for new legislation appropriate to the development of a well-balanced and coordinated system of transport by all types of carriers."

Promotion of Transport

For many years the several federal agencies for the promotion of transport were scattered over various government departments. The bodies dealing with the development of roads, inland waterways and civil aeronautics now come under the Department of Commerce. A proposal is pending to abolish the Maritime Commission and transfer its functions to the Department of Commerce. If this plan is carried out, the Department will become the major transport agency of the Government. It should then be able, Mr. Gibson said, to view promotional and administrative problems as a whole and so bring some order out of the present chaos produced by conflicting policies.

Regulatory Commissions

Today the Interstate Commerce Commission regulates railways, road carriers, inland water carriers and pipelines. The Maritime Commission regulates overseas carriers and dock, wharf and warehouse facilities. The Civil Aeronautics Board regulates domestic airlines. Mr. Gibson urged that the best method of treating all modes of transport fairly and impartially was to entrust a broad jurisdiction to one regulatory commission. There was a vital need to consolidate the functions of the C.A.B. with those of the I.C.C. to put an end to the present system of favouritism. The I.C.C. was the oldest and most stable of the independent commissions, with a long tradition of fairness, impartiality and non-partisanship. It could, the A.A.R. believes, look after air transport matters and relieve the Army Engineers of the duty of reporting to Congress on the economic justification of new waterway projects.

Status of Regulating Agency

The question has been raised whether regulatory commissions should have an independent status or be placed in an executive department. The A.A.R. feels that the very essence of a regulatory tribunal lies in its independence. Mr. Gibson stressed the point that the strength of the I.C.C. was founded on the confidence of traders and carriers in its integrity, with its practice of deciding a case on the facts submitted at a public hearing. If the Commission were subject to executive direction or political influence, confidence in its impartiality would be gone and its influence destroyed. It is a quasi-judicial tribunal which cannot be placed in the executive branch or otherwise made subordinate to the President without violating constitutional principles.

Limits of Consolidation

The final question concerning the future of government transport agencies turns on the limits to which their consolidation can be carried with advantage. The conflict between the Government's promotional activities and its regulatory functions is a major issue of transport policy. In reaching a settlement, the choice is between centralising the two branches of work in an executive agency or in a single independent commission responsible to Congress. The A.A.R. considers that the latter is the only sound choice, if the U.S.A. transport system is to continue under private ownership and operation.

In support of this opinion, Mr. Gibson declared that the solution of important transport problems needed the impartiality, deliberation, expertness and continuity of policy that have marked the history of the I.C.C. The economic powers necessary for their solution were too great and too far-reaching to be entrusted to a political officer in the executive department. The agency vested with these powers must be immunised as far possible from the political pressures to which an executive officer is subject. A transport commission of a non-partisan character, Mr. Gibson said in conclusion, would be an effective instrument for the development of all forms of transport, with full recognition of the inherent advantages of each, and would fittingly promote the ultimate objectives of a free economy and a free society.

* Previous articles in this series appeared in our issues of June 9, August 11, 18 and 25, September 8, and October 20 & 27

NEW ISSUE BY BRITISH ALUMINIUM CO., LTD.—Treasury consent has been received for the issue of 2,000,000 new ordinary shares of £1 each. These will be offered to shareholders in the proportion of two new shares for every £3 of stock now held and the issue price will be 34s. a share, of which £1 is to be paid on application.

DENSIFIED WOOD LAMINATES FOR INDUSTRY.—An interesting sound film—"Strength When You Need It"—sponsored by the New Insulation Co. Ltd., Gloucester, and produced by the Big Six Film Unit was shown privately in London at the Gaumont British Theatre in Wardour Street on November 14. This film, which lasts about 30 min., describes in detail the manufacture of Permali fully impregnated densified wood laminates, the production of machined parts, and their assembly into the various products used in the heavy electrical and other engineering trades. Though intended primarily as a high-grade electrical insulating material, Permali, with its high strength-weight ratio, has a wide range of uses. Railways in all parts of the world use it for insulating fishplates and it was first applied to this work more than 15 years ago. This material has the advantage of lightness as well as strength and the makers claim that it is termite proof and unaffected by mineral oils.

LARGE TOURIST TRAFFIC EXPECTED NEXT YEAR.—Sir Alexander Maxwell, Chairman of the British Travel & Holidays Association, said recently that in 1951, provided world conditions did not worsen, British tourist earnings could be expected to rise to £80 million, or even more, and American visitors, for the first time, to exceed 200,000. He believed that we should earn from the 1950 trade more than £70 million, of which 30 per cent. would be in United States dollars.

SOUTH LONDON RAIL TOUR.—The popularity of special tours for railway enthusiasts was demonstrated on September 30 by a well-patronised excursion arranged by the Railway Correspondence & Travel Society to cover lines in South London, which now have no regular passenger services or are normally used only by electric trains. The train, which was made-up to seven coaches and drawn by a S.E.C.R. 0-6-0 locomotive, left Holborn Viaduct at 2 p.m. and after covering nearly 50 miles of line, arrived back at Victoria at 4.58 p.m. The route followed, which also included lines and stations of historical interest, was *via* Cannon Street and Greenwich to Plumstead, thence to West Croydon by way of Blackheath, Nunhead, Factory Junction, Clapham Junction, East Putney, Wimbledon and Sutton. The return was made *via* the emergency spur at Selhurst, Clapham Junction, and the low level approach to Victoria.

Rationalisation in Continental Marshalling Yards

A study in efficiency methods presented to the recent International Railway Congress in Rome

IN view of ever-increasing road competition, the methods used by different administrations for the efficient and economical organisation of the work in and connected with such yards have to be examined more closely than ever. Only by reduction to the minimum of the cost per wagon shunted (which has a remarkable effect on operating costs as a whole) can those costs ultimately be brought down to figures that may have some chance of meeting on common ground those of other methods of transport. In the bigger modern yards, large staffs and numbers of shunting engines necessitate intelligent organisation to obtain the best results in all circumstances from existing installations and resources. These yards are designed and equipped for maximum normal traffics, but if those traffics decline for long or short periods, means have to be devised to effect adequate economies in work to suit sub-normal conditions without prejudicing the efficiency of the yard when a return to normal follows.

Freight Train Schedules

Not the least important measure is to organise the related main line train services with a view to establishing and balancing train arrival times, the ideal being a uniform frequency. This would enable shunting, making up trains, and train departures to be regular throughout the day, resulting in the best use of staff and shunting engines, and consequent maximum output. Unfortunately, line occupation and traffic characteristics make this impossible, but trains should be timed as far as possible on these lines, so that wagons may be sent forward with the minimum of delay, and that there may be a sufficient concentration of stock in reception lines to ensure that available resources will be fully utilised.

In certain European countries whose replies to a questionnaire circulated by the International Railway Congress Association, are summarised in a report by Signor M. Cirillo, Chief Operating Superintendent, Italian State Railways, through goods trains can generally be timed to run at comparatively regular intervals, especially at night, but local services have to depend on industrial working hours and times that stations are open for freight traffic. On the Italian State Railways, for instance, trains serving intermediate stations generally run by day, reaching the marshalling yard or terminal in the evening. The stock can then be marshalled during the night into through trains, ready to leave in the early hours of the morning. The reserve of stock thus accumulated at the marshalling yard makes marshalling during the night easier and more efficient, but this practice tends to cause slack periods during the day.

Most administrations arrange for systematic notification to be sent forward to each yard, giving the composition of trains before they arrive. This preliminary information may sometimes include such details as the total number of axles, number and weight of any special wagons, the route to be followed, and destination. It enables the yardmaster's staff to arrange beforehand for the making up or cancellation of regular trains, or the running of extra trains if necessary for dealing with special loads expeditiously. Wagons arriving at Italian marshalling yards have labels attached to them giving abnormally detailed information. This includes: date, train number, wagon number and gross weight, destination station and last transit concerned, category of traffic—such as express or grouped—description of any fragile or dangerous contents, and the shunting siding earmarked for the wagon. In yards on the Spanish railways the labels bear a three-figure number; the first number indicates the zone or region of the destination, and the second and third its division or section.

In Continental yards wagons arriving are generally identified by a "marking-off" service (checking and number-taking), on which the waybills are based, and the labels and shunting lists are prepared. On the Swedish State Railways, for example, about six men are employed as "markers-off," who prepare in duplicate a list of wagons for each train; one copy remains in the departure yard and the other is taken on by the guard with the train. The lists include the mark and number of each wagon, its destination station, number of axles and weight, and whether it is of the open or covered type; sometimes loaded and empty wagons are shown separately. The "markers-off" do not prepare the "cut" labels, which are the responsibility of the foreman-shunter. In Austria, the guard of a train has to prepare, in duplicate, a label for each wagon: the original he takes on with him, attached to the train list, and the copy remains in the yard.

Wagon-Examining

Wagon-examining in Italy is carried out under the orders of the "regulator" (an assistant yard manager) who follows the work of the examiners and decides when wagons must be detached and sent for repairs. Two examinations are normal in Continental yards, one before and the other after shunting. On the Swedish State system a speed of 1·6 m.p.h. is laid down for cuts pushed over a hump; the proportion of wrong shunts is 1 in 250. An auxiliary stand-by engine is used during interruptions to shunting for all the odd jobs, namely, picking up wrong shunts, removing damaged wagons and closing up. On most other railways, however, closing up is done by the shunting engines. In a few instances line-side tractors are used, notably in Norway and France, and capstans do the closing up in one French yard. In Holland a "loco-tractor" does this work after each train-load of cuts has passed over the hump, but all these auxiliary methods are costly in staff or in outlay, and there is seldom space for tractors to work between the tracks.

Retarders

Unlike British yards, those on the Continent almost always use skids to complete the braking of cuts. Rail-brakes or retarders are usually of the Thyssen pattern; the Buessing shoe-type track brake is also used in Austria. Swedish railways make use of a hand-operated track brake with skids with double rims. The proportion of wagons reported as damaged varies greatly in different countries. In Italy the proportions vary from 1 in 1,000 to 1 in 2,000, those in Sweden from 1 in 3,300 to 1 in 5,000; in Austria the average is 1 in 1,600, in Czechoslovakia 1 in 4,000, and in Spain 1 in 200.

Shunting Power

The Austrian Federal Railways, which use both steam and electric shunting engines, prefer the former because they stand up better to overloading than electric locomotives. The Italian State Railways, though so extensively electrified, also use steam shunting engines mostly, but have a diesel-electric type in addition. The Swedish State Railways have only electric shunting engines. The general practice in most countries is for steam shunting engines to take water and fuel during the change of shifts. Austrian shunting engines are fitted with a device known as the Chronedographen, which records all the work done, so that the output of each engine can be closely checked.

In the event of a reduction in traffic on certain days of the week or during a brief seasonal period, the output of most yards in some systems is slowed down by reducing the number of engines and staff. In some Italian yards, however, shunting is suspended for certain hours each day, and the work is intensified during the remainder. Both methods secure a reduction in shunting-engine costs, but cause delay in transit of some traffic. Another method adopted entails the shortening of working hours in some parts of the yard or even closing some parts, and the cancelling of regular trains. In such cases, the duties of the different marshalling yards are modified in order to prevent any increase in transit time for wagons. The Italian administration favours the can-

(*Continued on page* 428)

The Construction and Closing of Railways

Justification for new construction and for keeping open existing lines

THE replies to the questions circulated to members by the International Railway Congress Association to railways in English-speaking countries, or originally developed or managed today by British and American enterprise, were collated by Mr. Sven Boye, Divisional Officer, Norwegian State Railways.

The main aspect is the economic justification for either keeping open to traffic or for closing unprofitable lines of railway (in the face of road and other forms of competition) having due regard not only to the earnings of those lines, but also to the effect of closing on the finances of the parent system. Among the ancillary points which arise are questions as to whether a more adaptable rating policy, a different form of operation, or the regrouping of lines would improve the financial position of unremunerative railways; also, whether the closing of all unprofitable sections would enable an administration to meet road competition successfully, and whether a railway should operate, directly or through some agency, the road services introduced to replace abandoned railways. Similar economic justification for constructing new lines of railway is also a point to be discussed. It is surprising, therefore, that of the many railway administrations to whom this question was addressed, four only replied by giving the information asked for: British Railways, the Pennsylvania Railroad, the New Zealand Government Railways and the Ceylon Government Railway.

Three of these administrations collect statistics to ascertain the volume and fluctuations of traffic on each of their regions, divisions, or sections of line; but only the Pennsylvania uses traffic-volume statistics for regions and divisions for budgeting purposes. None fixes the rates for a section of line so as to improve the financial position of unremunerative lines. Instead, new methods of operation and organisation are adopted to this end. For instance, in New Zealand, passenger accommodation has been withdrawn from mixed trains wherever possible and replaced by railway-operated road services.

Closing Unprofitable Lines

The question of closing an unprofitable line in the United States is decided on the basis of its feeder value to the whole system. The State may, however, insist on a particular line being kept open for traffic. In the United Kingdom transport is considered as a whole, and decisions to abandon lines are taken according to the value of those lines to the British Transport Commission. Similarly, such decisions are taken in New Zealand on the basis of value to the country generally, special stress being laid on considerations of national economy.

State Intervention

Rates and fares in the U.S.A. are controlled by State and Federal regulatory bodies. In Great Britain the State is endeavouring to co-ordinate the whole system of transport, partly by means of nationalisation and partly by legislation. For instance, with certain exceptions, road goods vehicles are allowed to operate only within 25 miles of their operating centre. The New Zealand Government controls competition by deciding whether goods transport on a given route is to be by rail or by road. Passenger traffic by road is also State-controlled in that it is licensed on all routes, and the general policy is to license only one operator for each route, who therefore has a monopoly. As, however, 51 per cent. of the mileage of all route licences are held by the Railway Department, the railways are relatively well protected against road competition. The general impression gained from the various replies is that railways cannot compete with short-distance road transport, which, with its greater freedom in fixing rates, is able to divert the more high-rated goods from railways to its own services.

As to whether railways could meet road competition by closing down all unprofitable lines and without any other protective measures, and whether such action would be financially advantageous, the Pennsylvania administration agrees that a more favourable net income would result. The more important problem, however, in its view, concerned the rates and fares railways were permitted to charge, the wages they were required to pay, and the ability or disability of competitive transport agencies to take away business previously handled almost exclusively by the railways.

In the U.S.A. the question of constructing new railways arises only in areas where new industries or new mineral resources are to be exploited, and their construction must be financially justified. Considerations of national economy have no influence on such constructions. In that country railways are still considered to be the backbone of inland transport, despite the fact that its road transport is the most highly developed in the world. In the United Kingdom no important new lines are under construction or proposed, but in New Zealand construction is being undertaken, and there considerations of public interest have a predominant influence on the decision to construct a new section of line.

From the replies received it is clear that traffic conditions vary considerably as between the different countries and even between different railways. There is also a marked difference between the general economic policies of Governments in the various countries concerned.

These two factors together are probably more responsible than anything else for the differences in policies pursued. Moreover, discussion of justification for the construction of new railways draws attention to the lack of thoroughness with which traffic surveys so often have to be conducted, largely due to the inadequacy of available textbooks and other reliable sources of guidance. In many countries thousands of miles of new railways are urgently needed to open up and develop backward valuable areas, and the importance of reliable preliminary traffic survey cannot be over-estimated.

Rationalisation in Continental Marshalling Yards

(*Concluded from page* 427)

cellation of a complete shift, if this can suitably be arranged. For longer periods of slack traffic groups of sidings may be closed entirely.

In the unusual event of a serious shortage of traffic lasting for a long time, it may be necessary to close a whole yard and transfer its work to another. Any decision to close the whole or even part of a marshalling yard has to take into account not only the probable length of the reduction in traffic and the real economy obtained by this action, but also its disadvantages, such as delays in wagon turn-round. In principle, the general opinion seems to be that the best method is to cancel one or even two shifts a day, as this both reduces the costs of staff and engines, and enables normal working to be resumed as soon as traffic improves.

SHELL GEAR OILS.—On November 1 the Shell Omala range of gear oils was introduced on the British market. These are extreme pressure oils for certain industrial enclosed gears where severe sliding and pressure conditions demand the use of chemically active lubricants. The additives, at the relatively high surface temperatures developed at the points of contact, form a protective film on the metal of the gear teeth and prevent metal-to-metal contact, thus ensuring that lubrication is maintained. Shell Omala oils are an addition to the Seashell ranges of lubricants. The oils are being marketed by Shell-Mex & B.P. Limited.

Permanent Way on Continental Secondary Railways

A summary of the staff organisation, maintenance methods, and equipment of some European and African systems

A REPORT by Monsieur L. Ripert, Chief Engineer, Way & Works, French Light Railways, summarises the replies received from 31 administrations, to whom a questionnaire was circulated by the International Railway Congress Association. The report covers both lines worked by secondary railway companies and the secondary lines of main-line railway systems.

M. Ripert discusses the two categories into which the permanent-way maintenance gang may be divided, the hitherto normal small gang maintaining a short length of line, and the large or long-distance gang responsible for any length up to about 50 miles. There are now two schools of thought, one favouring each category, and the tendency seems to be towards a preference for long-distance gang for Colonial railways and secondary lines in other countries, though it entails the use of motor-trolley or road-vehicle collective transport.

Although only eight systems are maintained in whole or in part by long-distance or large gangs, three others of the 31 also have them, but are either goods or very small lines. Over one-third of the 31 administrations now employ these large gangs. Due to the nature of the country, three Swiss lines employ more men per mile than most of the small-gang railways, but the other large-gang systems have, on the average, considerably fewer men per mile, as one might expect. The generally-accepted view appears to be that the maximum number of men that may be employed in one gang is from 15 to 20, but that a 10-men gang is more easily controlled by the ganger and so probably more efficient.

The normal composition of a small gang is one ganger, sometimes a sub-ganger, and from two to five platelayers. On some railways, notably in Greece, Abyssinia, and Tunisia, as many as 8, 12 and 18 platelayers, respectively, may be employed under a ganger and sub-ganger. Large or long-distance gangs may include several sub-gangers, and normally 7 to 18, but in one instance as many as 50 platelayers. The latter extreme case is, however, being modified and the number is to be reduced to between 12 and 25, seasonal labour being added to each gang as may be required.

Maintenance

Administrations are not unanimous on the subject of maintenance methods. Some 16 favour the complete "general" overhaul of the road made as continuous as possible, working to an annual or monthly mileage target, but allowing for a certain amount of repair work being done on other lengths where there are either weak spots or abnormal and frequent attention is required. Seven other railways, however, favour the "integral" overhaul, which is not continuous and deals with the worst sections of line every year. The length of the cycle for general or integral overhaul varies from one to six years, but from 4- to 6-year cycles are commonest.

All the usual methods are used on these secondary railways for maintaining and strengthening the track components, including rail-joint welding. The thermit system of welding is practised by 13 administrations, electric arc welding by eight and the oxy-acetylene method by two. Two administrations state that all their lines are laid with long welded rails, namely the Swiss Emmental - Burgdorf - Thun and the Northern Light Railways in France. On the former four-fifths of the joints were electrically welded and one-fifth thermit welded into 118-ft. lengths. The latter administration has used both thermit and electric arc welding, but the former method is gradually replacing the latter; expansion is assured by inserting special joints. The longest rail-length is reported as being on the Tunisian Railways, namely 197 ft.

Measured Shovel Packing

Various methods are used to maintain correct gauge on sharp curves, namely metal sleepers, wooden wedges and steel stops secured to the sleepers with coach screws on the outside of the track, clip-type wedges, and Ramy cleats. Seven administrations report the use of measured shovel packing for maintaining track level, and find that they obtain greater accuracy and better output than with tamping. The General Light Railways and the North Eastern Secondary Railways, both in France, make use of the Mauzin versine recording apparatus for checking and maintaining correct curvature. Another device for the same purpose, known as the Me-D1-Co rectifying machine is used on the Lower Congo-Katanga and Franco-Ethiopian Railways. Chemical weed-killing is practised on 19 of these secondary lines.

Annual and monthly maintenance programmes are prepared and worked to by most railways, and on many progress is recorded by graphs. Hallade and Deville track recorders are used by various railways, and pass over the more important lines at regular intervals, notably every six months on the Tunisian system. Less important lines on certain railways are similarly tested up to once in four years.

Several administrations are using and extending the use of mechanised maintenance devices either systematically or experimentally. A variety of appliances are already playing their part in the maintenance of these secondary lines. Power-driven coach-screw spanners, drills, adzes, saws and tampers are among the most common machine tools. Experience shows that with the first of these machines work is speeded up by from five to ten times as compared with manual tightening. Such equipment is undoubtedly economical provided that it can be used sufficiently to cover the cost. No railway uses mechanical ballast-cleaning equipment, but the Tunisian Railways have constructed a machine for digging out and replacing ballast. It is mounted on a truck or motor trolley and has two shares worked by a hand winch, which makes it possible to regulate the depth of penetration into the ballast. The ballast is spread back by replacing the shares by rakes. The machine is hauled or worked by an 80-h.p. truck.

Results Obtained

From the technical point of view long-distance gangs, being better organised, supervised and checked, definitely improve the quality of the work and facilitate supervision by the district officer. It is also easier to find a few good gangers for long-distance gangs than a larger number of gangers for small gangs. On the other hand, men in small gangs are often more conscientious and have a greater corporate feeling than those in large gangs, with the result that greater ability to control their gangmen is necessary in gangers of large gangs. Modern and more highly organised methods make for more accurate and durable work, moreover no operation is forgotten and inspection is facilitated. For instance, measured shovel packing and the versine method make men develop the habit of making minute corrections in level and alignment.

Similarly mechanical appliances improve the quality of the work, such as the correct cant of a coach screw secured by using a mechanical drill, and of the rail by an adzing machine. Long-distance gangs equipped with motor trolleys and the general overhaul method, introduced some 20 years ago on one railway, have together reduced the maintenance staff by 25 per cent. The length of time between overhauls has been considerably increased by the introduction of measured shovel packing. Chemical weed-killing has reduced costs by 50 per cent. Some 40 per cent. reduction of the man-hours required for overhaul of fastenings is secured by using the power-driven coach-screw spanner on one railway, and on another 17 per cent. of the man-hours are saved by this device. It has also been responsible for an increase of 40 per cent. in the output of the general overhaul on a third system; and the use of mechanical spanners and drills together is claimed to result in much greater economies.

Economies in Marshalling Yard Working

Methods used by certain continental railways to reduce the cost per wagon shunted

THE French, Belgian, and certain other European railways state their practice in their replies to a questionnaire recently circulated by the International Railway Congress Association and summarised in a report by Monsieur M. Lamarque, Chief Engineer of the Northern Region, French National Railways. He explains that the reduction of "cost per wagon shunted," in the question, covers all economies which it is possible to make under any heading in a marshalling yard. In fact, anything that improves the general efficiency of the yard and its services, even if the value of the actual economy secured cannot be assessed, must reduce the cost per wagon shunted and consequently comes within the scope of the report.

The ordinary wagon label used in French and Belgian marshalling yards bears a code number or number and letter, clearly marked or printed, to show at a glance the siding into which the wagon must be shunted. In the code, each final destination is given a number or letter, and all stations in the same area are generally given the same letter. Every despatching station is supplied with a chart showing the code letters for all destination stations, enabling the labels to be marked accordingly, if printed ones are not available. It is claimed that this system is almost automatic, and makes it unnecessary for the staff to have an extensive knowledge of geography. It is also flexible, as if necessary, the route can be altered without altering the code letters or numbers. Moreover, this system facilities the wording of advice notes informing marshalling yards of the composition of trains they are to expect, and makes for better general working and output. The Netherlands Railways are divided into 20 zones, each with a central station, and an additional label bearing the name of this station is attached to every wagon. Danish wagons carrying livestock, urgent and other special loads bear labels with different-coloured edges; different-coloured labels are also used in Norway.

Output Premiums

In both France and Belgium output premiums, based on actual output figures, are paid to marshalling yard staffs. In most of the other countries consulted, fixed premiums are paid for special efforts asked of the staff. The premiums payable in France are based on the ratios between: (1) the number of wagons despatched and the shunting engine-hours, (2) wagons despatched and man-hours worked, (3) the number of wagons damaged and the number despatched, and (4) the number of minutes delay in despatching trains for which the yard staff is responsible, and the number of trains despatched.

Each of these four considerations is given a variable coefficient for each yard, calculated according to the results obtained in practice before the premiums were introduced, and different coefficients are used for summer and winter. The premium so calculated is posted up daily in the yard in the case of lower-grade staff. The higher grades, including the yardmaster, receive the same amount plus a coefficient varying according to their grade, which may be as high as 5 or 6 in the case of senior yardmasters. The premium can be reduced or withheld in individual cases of poor work or fault committed by an employee.

The main difficulty with this system is to select the basic coefficients applicable to the yards, and the whole value of the premium lies in them. Recent experience shows that when output is being improved continuously, it is difficult to fix these coefficients in the first instance, and they have to be modified after a time. Once they have been fixed, however, there is no doubt of the value of the system, and a definite improvement is obtained in the output or the quality of the work covered by the premium. The Belgian administration has found that this system of premiums has resulted in a marked decrease in the damage to wagons and their contents.

In France both quality and output of work have improved since these premiums were introduced, part at least of the improvement being undoubtedly due to the premium. Requests for additional labour have become much rarer, as the daily posting of the premiums has enabled the men to see for themselves the effect a shortage of staff due to sickness or absenteeism has on the ratio of wagons despatched to men-hours worked. Premiums also make it possible for the managerial staff to explain to the men the results of inferior work.

Control and Supervision of Working

Different conditions and methods of preparing statistics in different yards make it impossible to compare output or results achieved in those different yards, on the basis of either the average time a wagon takes to pass through a yard, shunting engine hours, or number of staff employed. With regard to control and supervision of yard work and the adaptation of resources to day-to-day requirements, detailed programmes are usually prepared, taking into account seasonal and periodical variations in traffic that can be foreseen. Such programmes must define and co-ordinate reception, marking-off, shunting engine duties, and other operations to suit varying traffic conditions. Alternatively, the concentration of all useful information in a yard or control office makes for closer co-ordination, an important factor in the attainment of improved output.

Marking-off (checking and number taking) and wagon examination are invariably carried out in reception and departure sidings in all countries consulted. A uniform shunting speed commensurate with yard equipment and conditions and with atmospheric conditions is considered more valuable than endeavours to attain the highest possible speed. The fact is stressed that prevention of loss of time and shunting accidents is all-important in securing a satisfactory general yard output. To this end, special attention must be paid to reducing time spent in shunting engine servicing, closing up wagons, and to rectifying wrong shunts, and also to the avoidance of cuts overtaking one another.

Braking of Cuts

Track brakes are installed in French, Swiss and Dutch yards. In large yards where they are not used, wagon spacing is generally effected with the aid of skids placed as close as possible to the hump or continuous slope; they are automatically removed from the track when the wagons slow down by means of gaps in the rails. In certain cases, however, spacing braking is carried out by either the Deloison or Farenc system in which spring equipment places a skid in front of a wagon at a required spot; the skid is thrown clear at the end of the braking distance. Like the various kinds of track brakes, these systems of mechanical skid rail braking are worked from a control point some distance away. In Swiss yards where there are no track brakes, two sets of skids are used, one for spacing and the other—as in all continental yards—for slowing down the cuts.

Making up Trains

A general preliminary programme for making up trains for despatch from marshalling yards is extremely valuable, but most administrations report that details of making-up operations were generally left to the initiative of the yard staff. The most difficult problem is the making up of stopping trains, especially if they have to be made up one after another at very frequent intervals.

This problem has led the French and Belgian administrations to adopt the "simultaneous making-up" method; the report recommends that this system should be used whenever possible. The report confirms that the output of diesel shunting engines is much greater than steam and also that their cost per hour is considerably lower.

A continuing decline in traffic may be met either by reducing shunting output and so lowering the cost of labour employed, or by closing one or more parts of a yard for the period of one or two shifts, as necessary.

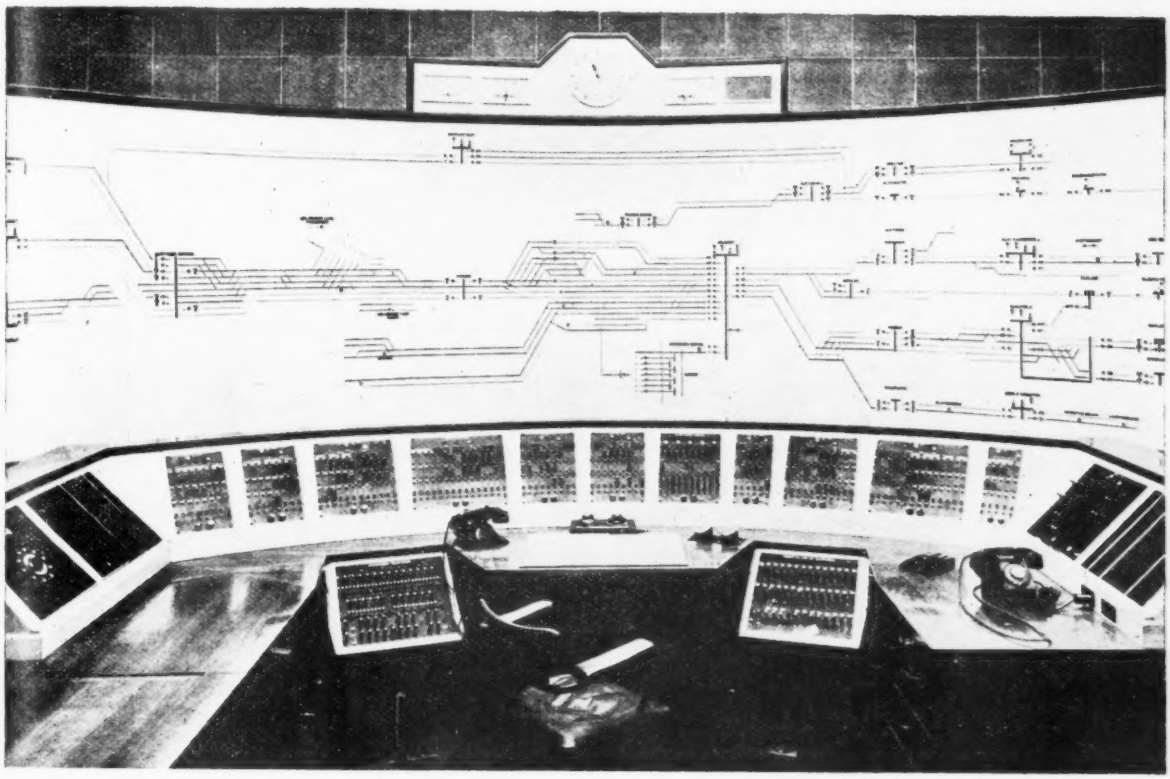
Remote Control of Substations

Apparatus supplied by G.E.C. to the Victorian Government Railways

SUBSTATIONS supplying the Gippsland line of the Victorian Government Railways, now in course of electrification, will be controlled from a central control room at Moe. Equipment to the value of £26,000 is being supplied by the General Electric Co. Ltd. for a comprehensive remote supervisory control system to operate the switchgear at 30 substations. Six pairs of pilot wires will terminate at the control room and each pair will serve several substations. Over these wires telephone and remote metering facilities will be provided as well as operation of the switchgear and indication of the conditions at each substation.

The supervisory equipment at Moe is designed so that it will be a simple matter at a later date to provide full control facilities at certain substations where in the early stages only a few groups require to be operated.

The Gippsland line connects with the existing Melbourne suburban electrification, where 42 substations feeding 173 route-miles are already under the control of a G.E.C. remote supervisory system providing control, indication, metering, and telephony services.



Remote supervisory control apparatus supplied by the G.E.C. for control of traction substations on the Melbourne suburban lines of the Victorian Government Railways

RECOVERING METAL FROM SCRAPPED TRAMS.—The firm of George Cohen, Sons & Co. Ltd. has purchased some 700 London trams and undertaken to demolish them at Charlton as they are withdrawn from service and replaced by buses. Although burning the trams may seem a waste of wood, the value of such material recovered by careful dismantling would not repay the cost of the time and labour involved. Before setting fire to the bodies, plate glass, various electrical fittings, brasswork, seats, doors, and so on, are salvaged for sale. After the burning, ferrous and other metal parts of the superstructure are easily removable; but the greater part of the iron and steel scrap is derived from the bogies and motors. This electrical gear yields copper and other non-ferrous metal. Sorting and grading of most of the various types of scrap is being carried out on the spot. Most of the steel derived from the present contract is consigned to South Wales for re-use.

BARSI LIGHT RAILWAY COMPANY.—The report for the year ended March 31, 1950, of the Barsi Light Railway Co. Ltd. shows that gross earnings rose by Rs. 2,20,980; coaching traffic was up by Rs. 4,14,870, while goods traffic decreased by Rs. 1,93,890. Working expenses at Rs. 38,89,312 were higher by Rs. 3,92,362. From net earnings of Rs. 8,30,343 there has been set aside Rs. 2,90,977 (£21,823) for Indian taxation and £1,905 to meet United Kingdom tax. Debenture interest required £8,900 and the directors have transferred a further £21,250 (making a net addition of £10,000) to the reserve for renewals. After settlement of tax claims estimated at £12,175, a total of £45,375 is available. The preference dividend, less tax, takes £1,061 while the interim dividend of 2 per cent. already paid, absorbed £8,033. A final dividend of 4 per cent. is recommended on the ordinary stock, which will make a total distribution of 6 per cent. for the year with £20,214 carried forward.

RAILWAY BENEVOLENT INSTITUTION AWARDS.—At a meeting on October 26 the board of the Railway Benevolent Institution granted annuities to 20 widows and 12 members involving £585 15s. a year; 39 gratuities were also granted amounting to £354 5s. to meet cases of immediate necessity and a gratuity of £20 4s. was also made in respect of a child.

Ulster Transport Authority Workshops

Premises designed to combine repair and servicing facilities for both rail and road vehicles

AS a result of the gradual expansion of organised transport in Northern Ireland before the recent war existing repair facilities became inadequate to deal efficiently with repairs and servicing of rolling stock. The position still further deteriorated as a result of war damage, which necessitated the dispersal of existing facilities outside Belfast over a radius of some 25 miles; rail workshops also suffered severely. Substituted accommodation was quite unsuitable, so much so, indeed, that when the Ulster Transport Authority was constituted in 1948, one of the most urgent requirements was to provide repair and servicing facilities for both rail and road vehicles.

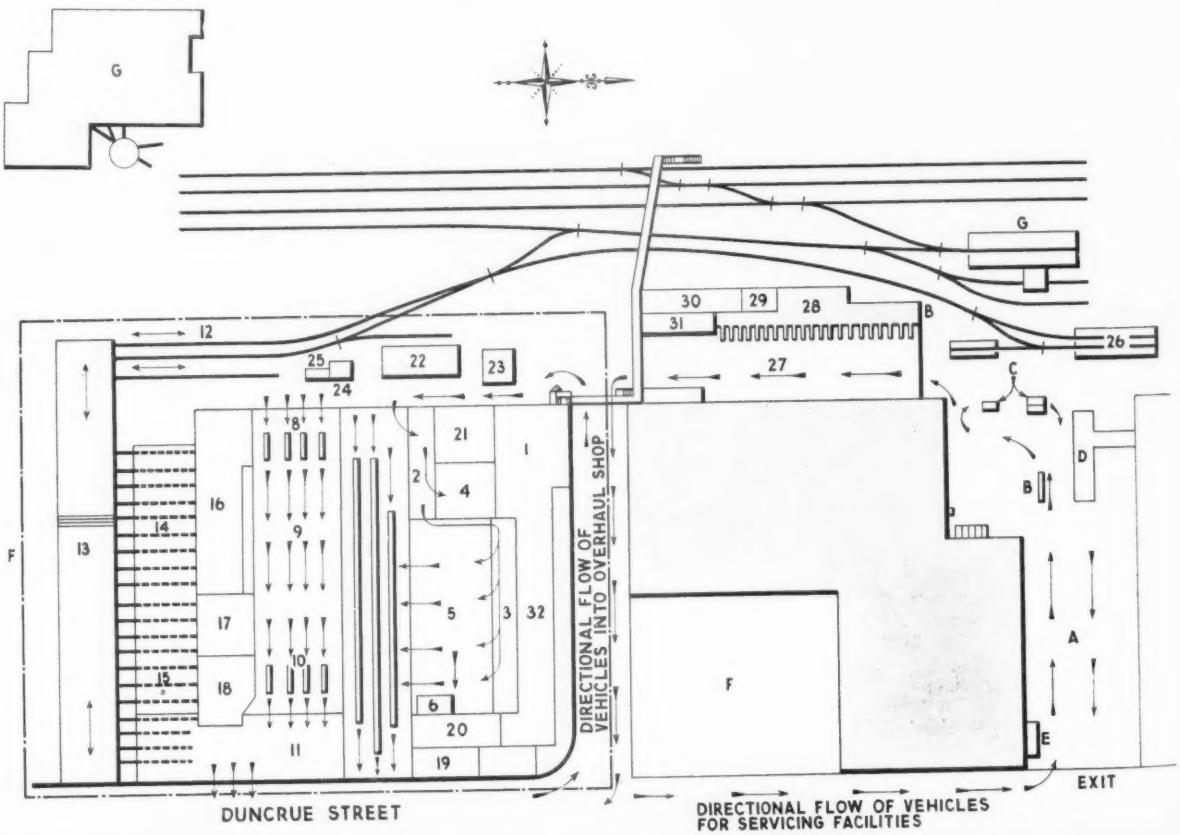
The design of the new shops, the official opening of which was referred to in our issue of October 20 & 27, aimed at the provision of a flexible and economic output by bringing all repairs and servicing of rolling stock and motive power under a unified control. The diagrammatic plan illustrates the broad principles underlying the general layout, which was designed to meet the functional requirements of a combined road/rail engineering organisation, incorporating the location of other departmental activities closely allied to the engineering department's functions, namely, routine purchasing, entire stores stock control, cost accounting, together with the control of daily traffic rolling stock requirements, all very important aspects ensuring efficiency of operation. On referring to the plan it will be seen that A and B, on the right-hand side of the plan, have been laid out as a circulating area and parking ground for road vehicles, incorporating the servicing functions of fuelling, washing operations (which are carried out mechanically), and road safety testing applications. These functions cover an area of approximately four acres.

Running Shops and Servicing Facilities

The road running shop (27) has been sited to serve as a communicating link between the open areas A and B and the main workshops (ringed on the left-hand side of the plan), the layout of this building being such as to accommodate through movement of vehicles, in addition to providing free access to the pit area and sunken workshops, where all servicing adjustments to the varied components of all types of road rolling stock, including the bodywork, are carried out.

The battery overhaul and tyre inspection sections (30 and 31), including a sub-store (29), have been located within the road running shop, as an assurance of maximum throughput for this particular section. This building has a clear maximum span of 120 ft. and is 344 ft. in length, with a clear working height of 18 ft. In conjunction with the layout of the road running shop (27) the diesel locomotive and railcar shop (26) was erected nearby. The siting of this building has been planned to take care of any future developments as affecting both rail and road rolling stock design.

These new buildings are convenient to an existing building (G) which accommodates all running shed requirements of steam locomotives in the Northern Counties Area. The entire layout provides for a single element of supervision covering all activities of



Diagrammatic view of the workshops showing the production flow and area for future expansion

road vehicles, diesel locomotives, diesel railcars, and steam locomotives, namely, refuelling, washing, and all technical servicing functions for both forms of rolling stock.

The ringed area shown on the plan represents the newly erected main workshop buildings covering a total area of approximately 4½ acres. These buildings have been laid out on the broadest principles of versatility, and have been designed to provide for rapid change-over to meet any developments on either road or rail rolling stock.

The main building consists of fabricated steelwork providing a truss span of 72 ft., with columns at 36-ft. centres. The roof, which is of Rubberoid steel decking, consists of equal truss formation, each roof span being fitted with continuous strip glazing on both slopes, thus providing the maximum natural lighting facilities on all sections of the floor area.

The steelwork is designed to allow for the removal at selected points of the 36-ft. centre columns, therefore providing a clear working space throughout the entire workshop of 72-ft. centres in each direction. The overall dimensions are 486 ft. in length and 396 ft. in depth. The electric power and heating facilities are provided from separate buildings entirely isolated from the main block; (23) on the plan indicates the sub-station, and (22) the main boiler house.

Electric Supply and Lighting

The electric supply throughout the entire scheme is designed so that every sub-distribution board is ring-mained to ensure a continuous supply of current in the event of a breakdown in any one feeder cable. The electric lighting installation consists of alternate tungsten filament and mercury vapour discharge lamps designed to give a colour blended light of 15 foot-candles at floor level.

The road and rail paint shops are fitted with continuous lines of twin tube fluorescent lamps designed to give a surface illumination of 30 foot-candles. The battery shop and fuel filling points are provided with flame-proof fittings. Heating, with the exception of the offices and stores, is provided by low-pressure steam heater units, suitably positioned and thermostatically controlled to maintain a constant workshop temperature of 60° F. Each heater unit is also fitted with manually-controlled fresh-air intakes to ensure the most comfortable working conditions during the summer. The steam generating plant consists of three Lancashire type boilers giving a capacity of 24,000 lb. steam per hour. The offices and stores heating is hot water *via* a calorifer system situated in the boiler house.

The central steam generating plant was designed to provide all heating requirements and low-pressure steam facilities for the new hotel at present being constructed at York Road Station, including steam heating at the latter point, which is about half-a-mile from the steam generating plant.

The compressed air requirements are provided from electrically-driven compressors (24) situated adjacent to the building. All concrete floors are finished with granolithic surface.

Direction of Work Flow

The flow of rolling stock overhauls, and the body manufacturing processes in the main workshops, are arrowed on the plan, and are briefly as follows:—

Road vehicles, together with individual units removed from diesel-electric locomotives and diesel railcars for overhaul, enter the shops as indicated by arrows at the rear or west of the premises. The various components of the complete vehicle (except bodywork) are dismantled in station 8, and flow through in common with the individual units ex diesel locomotives, diesel railcars or road vehicles, *via* the unit cleaning station (2), and after overhaul meet the chassis and body assembly at station 10.

The individual diesel locomotive, railcar, and road vehicle units are returned to the stores department (1) for service requirements in the road running shed, diesel railcar running shop (26 and 27), and the road vehicle depots throughout the country. The custody of these units comes under the control of the stores organisation; road vehicles which do not require body removal for certain overhaul operations flow over pits (7).

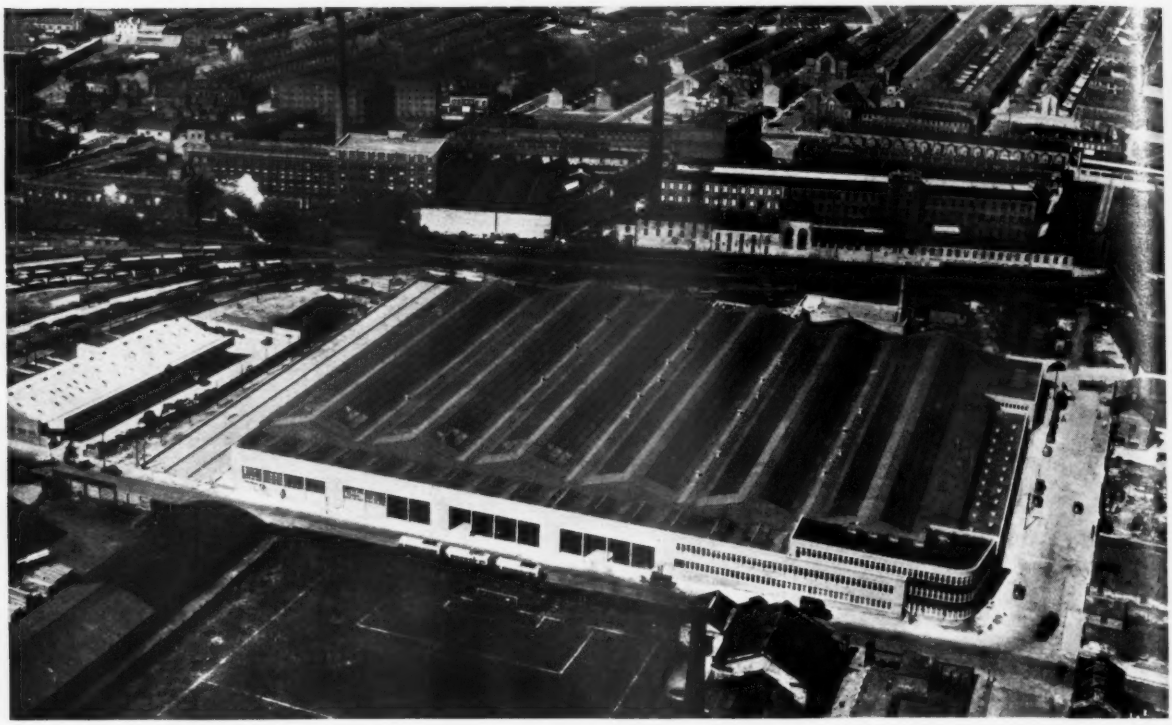
Areas 14 and 15 accommodate all rail rolling stock, body manufacture and overhaul, the movement of which in and out of the shops is catered for by an electrically-operated traverser over area 13. Bodywork technique, covering both manufacture and overhaul, is common to both road and rail rolling stock, and, as a means of ensuring the maximum efficiency for these joint operations, the timber mill, sheetmetal and radiator shops, and the coach trimming section have been accommodated in areas 16, 17, and 18, situated between the sections of the shop allocated to road vehicle and rail rolling stock body operations. Similarly, all body painting flows through a common paint shop (11).

The workshops are equipped with the appropriate capacity of modern mechanical handling machinery, which has been designed to ensure the maximum efficiency of the combined operations and respective flows of the various processing operations. All workshop pits are equipped with the latest artificial lighting, and electric and air-operated portable tools are installed with a view

(*Continued on page* 438)

Fluorescent lighting fittings and stock bins in the main stores

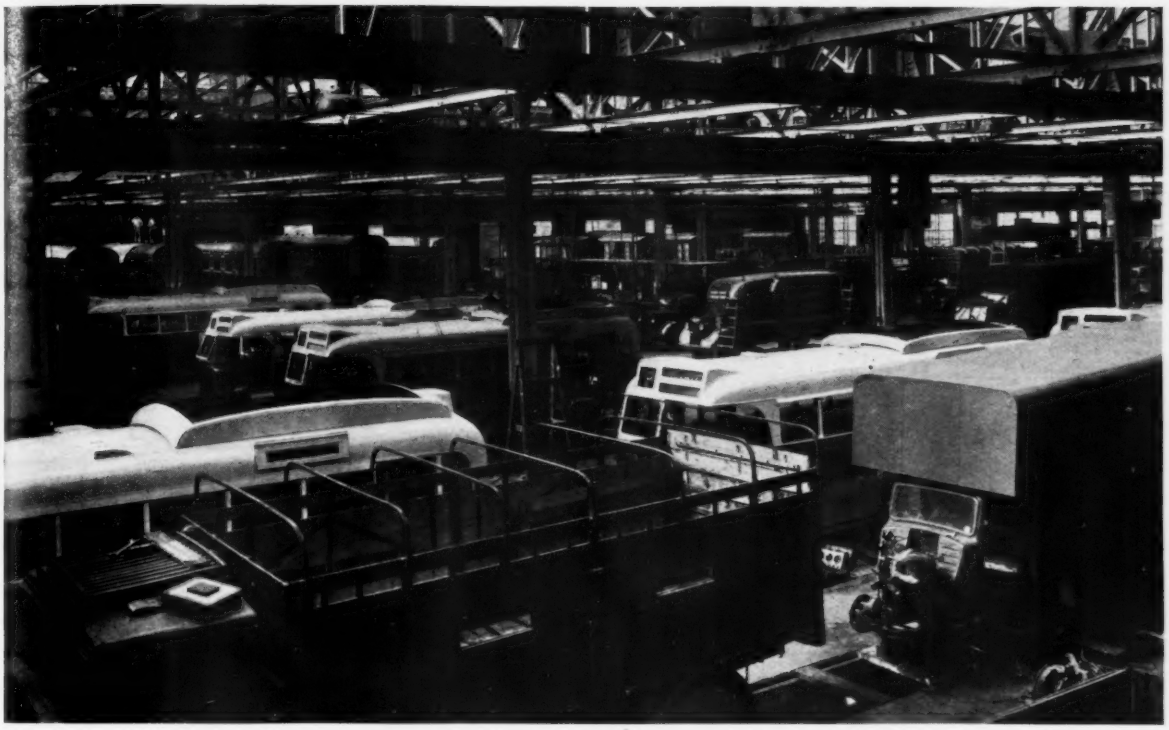
Ulster Transport Authority Workshops



Aerial view of Ulster Transport Authority workshops, Duncrue Street, Belfast

Railway rolling stock traverser situated on the south side of the workshops

Ulster Transport Authority Workshops



Combined railway rolling stock and road transport vehicle repair shop

General view showing the arrangement of machine and fitting shop

Home for Retired Railwaymen at Woking

(See news article on page 443)

Main hall at "Wynberg," opened on November 1 as an old people's home

The lounge; there are also a common lounge and a sitting room for women

Home for Retired Railwaymen at Woking

Dining room at "Wynberg," Woking, opening into the garden

Men's bedroom; accommodation also includes single rooms, and double bedrooms for married couples

Reconditioning Escalator Chains

Overhaul of equipment after 17 years of continuous service

THE reconditioning of the main chains of MH-type escalators that have been in continuous service for about 17 years is now being undertaken at the Acton works of London Transport. Older machines are to be dealt with first and the work will spread over a number of years. At Manor House Station one escalator has already been completed and a start has been made at Wood Green Station.

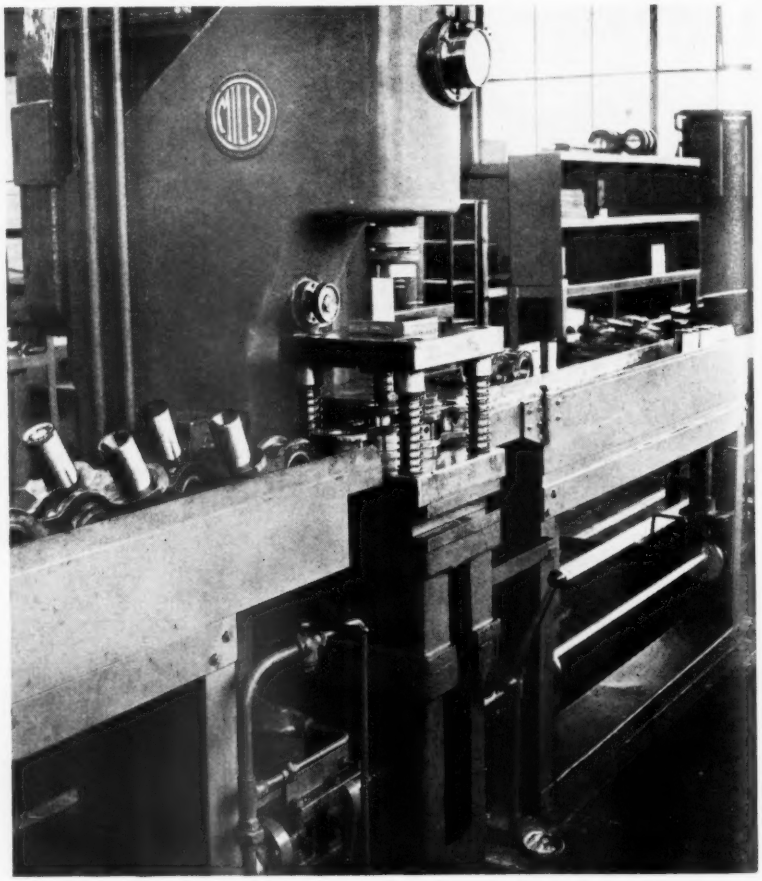
The work on each escalator is carried out in stages. At each stage 50 steps are removed and eight 8-ft. lengths of chain are taken out from either side and replaced by reconditioned chain. The steps are then replaced and the escalator put back into service until the next stage.

Each 8-ft. length consists of 17 links and weighs approximately 2 cwt. After removal the chains are transported in a wheeled tank stillage, designed for this purpose, to the London Transport railway overhaul works at Acton, where special arrangements have been made to deal with the reconditioning work.

On arrival the chain is cleansed of grease, grit, and other foreign matter in a trichlorethelyne plant. Split pins are then removed and the various links marked by electric pencil to enable matched parts to be reassembled after overhaul. Stripping and reassembly are carried out in a Mills 15-ton hydraulic press and the chain is carried in a channel which is raised or lowered by means of a pneumatically operated camshaft to allow the chain to be moved through the press tools. After stripping, the link plates and rollers are gauged, and worn parts, together with all pins and bushes, are scrapped and replaced. To ensure correct matching the worn link plates are scrapped in pairs.

In reassembling the chain the inner links are built up first. The press tool is then changed, with the aid of an elevating trolley, and three inner links are joined together by two outer. Three such five-link units are assembled and the press tool again changed for the final assembly fixture by which the three are joined together by outer links.

Split pins are fitted and the completed length of chain measured under a 1½-ton load to within a tolerance of 0·005 in. Its length is stamped on a brass label attached to the chain to ensure matching by a similar length for the opposite side of the escalator. The chain is finally immersed in an oil bath for 4 hr. and then removed in a stillage for use where required.



Press set-up for reassembly of escalator chain

The overall length of an escalator chain varies from 500 to 800 ft., depending on the length or rise of the machine, and the total amount of chain to be dealt with under this programme is 40,000 ft., weighing approximately 500 tons. It is anticipated that after reconditioning the chains will be fit for at least another 17 years of service. At Manor House Station, where there are three escalators, it was possible to deal with one of them without inconveniencing passengers, and a similar condition exists at Wood Green, where work is now proceeding. At stations such as Green Park, Knightsbridge, Hyde Park Corner, and Monument, where reconditioning is to be carried out in due course, the existence of only two escalators means that for a time only one will be available for service.

Ulster Transport Authority Workshops

(*Concluded from page* 433)

to reducing manual fatigue to the minimum. Specially designed facilities are provided in each pit for the disposal of radiator water and lubricating oil, the latter being collected in underground tanks to be ultimately treated for re-use.

Toilet accommodation of a high standard has been provided and hot and cold running water is installed throughout. A fully-equipped first-aid station is provided.

NATIONAL COAL BOARD PLAN. — The National Coal Board on November 14 laid its proposals for a national plan for coal mines before the National Consultative Council of the industry. The plan, which is to be submitted to the Minister of Fuel & Power, envisages capital expenditure between 1951 and 1965 of £487 million on collieries, which with £33 million for contingencies and £115 million for ancillaries (coke ovens and so on) makes a total of £635 million; in the same period output is to be raised 18 per cent., being raised mainly in Scotland, East Durham, Yorkshire, the East Midlands, North Staffordshire, and Kent. Further details will appear in our next issue.

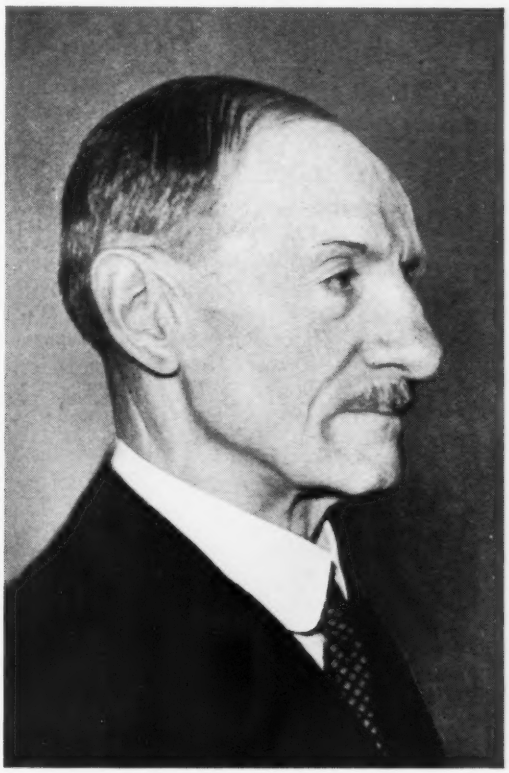
RAILWAY NEWS SECTION

PERSONAL

Brigadier-General Guy Lubbock has resigned his Directorship of Peruvian Corporation Limited.

Mr. A. F. Bruyns-Haylett, B.Sc., M.I.C.E., M.Inst.T., Research Engineer, Chief Civil Engineer's Office, South African Railways, who, as recorded in our July 14 issue, has been appointed Chief Civil Engineer, was born at Lakeside, Cape Town, in 1891, and was educated at Elstow School, Bedford, England, and took a degree in Civil Engineering at the South African College, Cape Town, in 1913. He joined the South African Railways in 1914 and served in various engineering grades on survey, construction, and maintenance until 1936, when he was appointed Chief Works & Estates Officer. In 1942 Mr. Bruyns-Haylett became Acting System Manager at Windhoek and he returned to the Chief Civil Engineer's Department as Inspecting Engineer in 1943. During 1945, and in the two succeeding years, he acted as Assistant Chief Civil Engineer and he was appointed Research Engineer in 1948. Mr. Bruyns-Haylett has served on various railway committees and was a full member of the Railway Line Revision Commission in 1938-39. He has been elected President of the South African Institution of Civil Engineers for the current session.

Mr. A. F. Bruyns-Haylett
Appointed Chief Civil Engineer, South African Railways



The late Lord Royden
Chairman, London Midland & Scottish Railway Company, 1941-46

The Minister of Transport has approved the appointment of Mr. Miles Beevor, who has been nominated by the British Transport Commission, to be a Member of the Central Transport Consultative Committee in place of Mr. M. A. Cameron, who has resigned. Mr. Miles Beevor is Chief Secretary, and Mr. Cameron, Principal Traffic Officer, British Transport Commission.

Mr. G. Herbert Lash, Deputy to the Director of Public Relations, Canadian National Railways, has been appointed Director of Public Relations.

We regret to record the death on November 10 at the age of 68 of Sir George Clark, Bt., D.L., Joint Deputy Chairman, Great Northern Railway (Ireland).

Mr. A. R. McBain, one time Under-Secretary (Munitions Supplies), Ministry of Supply, and a Part-Time Member of the Southern Gas Board since 1948, has been appointed a Part-Time Member of the Iron & Steel Corporation of Great Britain for a period of six months. Mr. S. S. Wilson has been appointed Secretary to the Corporation. Since 1948 Mr. Wilson has been an Under-Secretary in the Ministry of Supply and previously held the same rank in the Ministry of Transport.

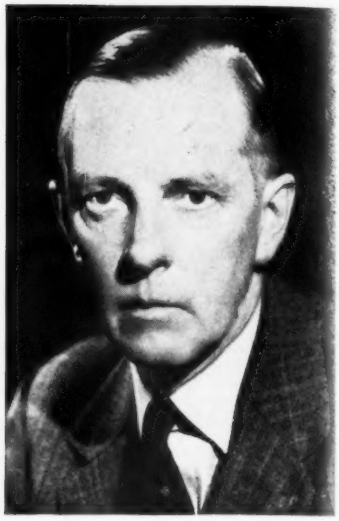
We regret to record the death on November 6, at the age of 79, of the Rt. Hon. Baron Royden of Frankby, C.H., J.P., D.L., who was Chairman of the London Midland & Scottish Railway Company from 1941 to 1946. Lord Royden was born in 1871 and was educated at Winchester and Magdalen College, Oxford. He became a Director of the Lancashire & Yorkshire Railway Company in 1909, and, on the amalgamation of the company with the London & North Western Railway Company in 1922, became a Director of the L.N.W.R. On the grouping in 1923, he became a Director of the London Midland & Scottish Railway Company, and in 1940 was elected a Deputy-Chairman, and in 1941, Chairman. In 1934 he was appointed a representative of the L.M.S.R. on the Cheshire Lines Committee. Lord Royden had been Chairman of the Dundalk, Newry & Greenore Railway Company. He was a prominent figure in shipping circles for many years, and was a Director of the Cunard Steam Ship Co. Ltd., Cunard White Star Limited, Thos. & Jno. Brocklebank Limited, and the Port Line Limited. He was a Director of the Midland Bank Limited. He had been Chairman of the Liverpool Steam Ship Owners' Association, and President of the Chamber of Shipping of the United Kingdom. He was Unionist M.P. for Bootle from 1918 to 1922. Lord Royden was made a Companion of Honour in 1919. He succeeded his father as second Baronet in 1917, and received a Barony in the New Year Honours, 1944. Lord Royden was a Commander of the Legion of Honour, and of the Order of St. Maurice & St. Lazarus, and a Commander (Brother) of the Order of St. John of Jerusalem.

Brigadier R. Gardiner

Director of Transportation, War Office, 1948-50; Commandant, Transportation Centre, Royal Engineers, 1946-50

Brigadier C. E. M. Herbert

Appointed Director of Transportation, War Office, and Commandant, Transportation Centre, Royal Engineers



Mr. J. R. Dallmeyer

Appointed District Engineer, Kings Cross, Eastern Region, British Railways

Brigadier R. Gardiner, C.B.E., who has relinquished the joint appointment of Director of Transportation, War Office, and Commandant, Transportation Centre, Royal Engineers, and is assuming the position of Director of Engineer Stores on December 1, was educated at Uppingham School and the Royal Military Academy, Woolwich. He was commissioned in 1920, into the Royal Artillery and transferred to the Royal Engineers in 1924. After joining the East Indian Railway as an Assistant Executive Engineer in 1927, he became Secretary to the Agent, East Indian Railway from 1930 to 1934. He was Government Inspector of Railways, Government of Burma, from 1938 until 1940, when he reverted to military duty and raised the first Indian transportation unit, a Railway Construction Company. After serving in Eritrea in 1941, he joined Army Headquarters, India, at the time when a Transportation Directorate was formed, and he was appointed Director of Transportation, India, in 1942. In 1945 he became Director of Transportation B.A.O.R. The following year he was appointed Commandant, Transportation Centre, Royal Engineers, which became a joint appointment with that of Director of Transportation, War Office, in 1948.

We regret to record the death of Mr. H. R. Campfield, who was London Divisional Superintendent, G.W.R., from 1924 to 1933.

Mr. P. E. Gingras, Passenger Traffic Commissioner, Canadian Pacific Railway, Montreal, arrived at Liverpool on November 3 on the *Empress of Canada*.

We regret to record the death on September 27 of M. André Lévy, Chairman of the Managing Committee, French General Light Railways Company. He had served in the traffic and commercial departments of the Chemin de fer du Nord, subsequently representing the French National Railways at the goods traffic commissions of the International Union of Railways (U.I.C.) and in conferences of the International Goods Traffic Convention (C.I.M.); in 1946 M. Lévy assumed the position which he occupied until his death.

ENGINEER & RAILWAY STAFF CORPS

The annual dinner of the Engineer & Railway Staff Corps, R.E. (T.A.), was held on October 20 at the Charing Cross Hotel. Colonel Sir Eustace Missenden, the Officer Commanding, was in the chair.

Brigadier C. E. M. Herbert, C.B.E., M.Inst.T., formerly Deputy Director of Transportation, War Office, who has been appointed Director of Transportation, War Office, and Commandant, Transportation Centre, Royal Engineers, was born in South Africa in 1904. He was educated at Brighton College and the Royal Military Academy, Woolwich, and was commissioned in the Royal Engineers in 1924. After a two year course at the School of Military Engineering, Chatham, he was posted to the Railway Training Centre, Longmoor, from 1926 to 1930, during which time he underwent a one year course of instruction with the L.M.S.R. He was seconded to Tanganyika Railways in 1930 as Assistant Engineer (Survey). Following his return to military service, he held various staff appointments, and was posted to G.H.Q. Middle East Forces as Assistant Director of Transportation (Movement & Transportation Plans) in 1941. Subsequently he was appointed Deputy Chief of Transport Division, Allied Commission for Austria (British Element), and in 1945 he became Director of Transportation, Burma, acting also as Deputy Quartermaster General (Mov. & Tn.). After short postings during 1946 in Germany and East Africa, he was appointed Deputy Director of Transportation, War Office, in 1947.

We regret to record the death, at the age of 66, of Mr. T. B. Hare, who retired on May 20 from the position of Principal, All-Line Operating School, Darlington. A portrait and biography of Mr. Hare appeared in our June 2 issue.

Sir Reginald Robins, Commissioner for Transport, East Africa, accompanied by Mr. A. Dalton, General Manager, East African Railways & Harbours, left Nairobi on October 24 to attend the African Inter-territorial & Transport Conference in Johannesburg.

Mr. Douglas Lorimer, President of the Locomotive Manufacturers' Association, who, as recorded in our October 20 & 27 issue, was to have left England on November 16 for a visit to India, cancelled his visit on medical advice. Mr. John Vaughan, O.B.E., Director, L.M.A., has proceeded on the visit alone.

Mr. J. R. Dallmeyer, B.Sc., M.I.C.E., District Engineer, Hull, British Railways, North Eastern Region, who, as recorded in our issue of October 20 & 27, has been appointed District Engineer, Kings Cross, Eastern Region, was educated at Loretto School and Leeds University. He joined the North Eastern Railway as a pupil in 1921 but went to the Southern Railway in 1923, and later became an Engineering Assistant. He joined the Palestine Railways as Assistant District Engineer in 1926 and subsequently acted as District Engineer for over four years. In 1936 Mr. Dallmeyer entered the service of the L.N.E.R. at Kings Cross and was appointed Parliamentary and Surveying Assistant in 1939. In 1942 he was appointed District Engineer, Ipswich, and he became District Engineer, Hull, in 1948.

Mr. L. T. Thelander, Chief Electrical Engineer, and Mr. R. Edenius, Assistant Chief Electrical Engineer, Swedish State Railways, have left Stockholm on a visit to New Zealand, where they will take part as honorary consultants, in a three-week conference on the New Zealand North Island railway electrification scheme.

We regret to record the death on November 8 of Mr. F. M. Osborn, Chairman, Samuel Osborn & Co. Ltd. and of George Turton, Platts & Co. Ltd.

Mr. Gerald Collingwood, Managing Director of Vulcan Foundry Limited and of Robert Stephenson & Hawthorns Limited, has succeeded Mr. John Alcock as Chairman of the Locomotive Manufacturers' Association Internal Combustion Group. Mr. Alcock, who is Joint Managing Director of the Hunslet Engine Co. Ltd., had been Chairman of the Internal Combustion Group since its formation in 1947.

British Transport Commission Statistics (Period No. 9)

Summary of the principal statistics for the four-week period ending September 10

STAFF

	B.T.C. Head Office	British Railways	London Transport	British Road Services (Road Haulage)	Road Passenger (Provincial & Scottish)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks, Harbours, Wharves	Railway Clearing House	Commercial Advertisement	Legal	Films	Total
Number ...	228	617,578	98,720	74,770	61,494	18,825	6,510	5,075	19,937	646	196	277	26	904,283
Inc. or dec....	−1	−1,091	−112	−224	−443	−71	−108	+1	−43	+4	+2	−2	+1	−2,087

BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

	Four weeks (Period No. 9)		Aggregate for 36 weeks	
	To Sept. 10, 1950	To Sept. 11, 1949	1950	1949
	£000	£000	£000	£000
British Railways—				
Passengers	10,002	10,898	77,682	83,192
Parcels, etc., by passenger train	2,576	2,327	20,831	20,014
Merchandise	6,734	6,110	57,649	55,153
Minerals	2,508	2,179	21,774	20,188
Coal & Coke	6,189	5,000	51,571	46,473
Livestock	197	125	911	778
	28,206	26,639	230,418	225,798
British Railways—				
Delivery & other road services...	813	706	6,512	6,088
Ships and Vessels	1,448	1,434	7,962	7,845
London Transport—				
Railways	1,058	1,056	9,814	9,926
Buses & coaches	2,409	2,485	21,445	21,826
Trams & trolleybuses	799	840	7,323	7,574
	4,266	4,381	38,582	39,326
British Road Services—				
Freight charges, etc.	5,075	3,493	41,352	19,514
Road Passenger Transport	3,628	3,341	26,902	25,052
Docks, Harbours & Wharves ...	965	894	8,187	7,619
Inland Waterways	127	117	1,115	1,057
Hotels & Catering	1,241	1,124	10,025	9,202

LONDON TRANSPORT

	Passenger journeys	Inc. or dec. per cent. over 1949	Car miles	Inc. or dec. per cent. over 1949
	000		000	
Railways...	46,336	+1·3	17,812	−0·9
Buses & coaches	210,319	−0·6	24,572	+1·6
Trams & trolleybuses	87,468	−3·3	8,527	−0·9
Total	344,123	−1·0	50,909	—

INLAND WATERWAYS
Tonnage of traffic and ton-miles

	Tonnage	Inc. or dec. per cent. over 1949	Ton miles	Ind. or dec. per cent. over 1949
	000		000	
Coal, coke, patent fuel & peat	432	+14·7	6,324	+7·8
Liquids in bulk	129	+4·0	3,354	+4·6
General merchandise	285	−3·3	4,819	−11·7
Total	846	+6·4	14,497	−0·2

BRITISH RAILWAYS
Rolling Stock Position

	Operating stock	Number under repair	Available operating stock	Serviceable stock in 1949
Locomotives	19,727	3,338	15,908	15,646
Coaching vehicles	57,507	4,600	52,907	50,914
Freight wagons...	1,099,295	101,936	997,359	1,003,007

BRITISH RAILWAYS
Passengers Journey (Month of July, 1950)

Full fares	Monthly returns	Excursions, cheap day, etc.	Other descriptions	Workmen	Season tickets	Total	Inc. or dec. over 1949 per cent.
4,938,000	18,887,000	21,785,000	4,882,000	17,706,000	20,689,000	88,887,000	−2·2

BRITISH RAILWAYS
Freight Tonnage Originating and Estimated Ton-Miles (Period No. 9)

	Minerals	Merchandise	Coal & coke	Livestock	Total	Inc. or dec. per cent. over 1949
	000	000	000	000	000	
Tons originating ...	4,414	3,991	12,619	106	21,130	−0·7
Ton-miles	368,120	512,350*	767,631		1,648,101	+0·8

* Includes livestock

BRITISH RAILWAYS (Period No. 9)

	Total steam coaching train-miles	Total electric coaching train-miles	Total freight train-miles	Freight train-miles per train engine-hour	Net ton-miles per total engine-hour	Locomotive coal consumption	
						Total tons	Lb. per engine-mile
	16,376,000	3,855,000	10,768,000	8·7	578	1,038,000	59·0
Inc. or dec. per cent. over 1949	+0·9	+3·7	−1·8		+2·3	+0·2	+0·5

Retired Railway Officers' Society

Annual autumn luncheon

The autumn luncheon of the Retired Railway Officers' Society was held at the Criterion Restaurant, Piccadilly Circus, London, W.1., on Tuesday, November 7, under the chairmanship of the President, Alderman W. T. Venton.

Among those present were:—

Guests

Sir David Maxwell Fyfe; Sir Francis Joseph, Bt.; Alderman S. H. Marshall; Messrs. Jacques Abady; D. R. Lamb, Editor, *Modern Transport;* John Elliot, Chief Regional Officer, London Midland Region; C. K. Bird, Chief Regional Officer, Eastern Region; C. P. Hopkins, Chief Regional Officer, Southern Region.

Messrs. J. D. Arthurton, L. P. Ball, D. Blee, J. Briggs, L. C. Brittlebank, A. F. Buckeridge, R. Burgoyne, J. P. Campbell, F. E. Campion, A. W. Collcott, Lt.-Colonel O. Davies, Major R. Davies; Messrs. F. Grundy, J. H. Guest, P. Halles, A. E. Hammett, R. G. Henbest, H. Holcroft, E. S. Hunt.

Messrs. W. P. Keith, W. S. Messer, P. M. Mills, J. P. Milton, C. F. Minett, E. S. Moore, D. Murray, S. E. Parkhouse, R. Paterson, D. Ramsay, H. G. N. Read, G. H. Searle, R. Simpson, B. D. Sullock, S. Sweeney, A. W. Tait, A. K. Terris, F. W. Tipton, F. D. Wharton, S. Williams, A. Wood, C. Wood.

Members

Messrs. A. W. Arthurton, H. I. Bond, A. Bond, A. F. Bound, W. P. Bradbury, F. S. Bridge, H. J. Burcham, C. Carslake, A. L. Castleman, G. Cornish, S. O. Cotton, F. E. Cox, J. W. Enser, B. P. Fletcher, Lt.-Colonel G. N. Ford.

Messrs. E. D. Grasett, R. O. Griffiths, A. J. Grinling, H. J. Guest, G. Hickling, C. V. Hill, C. Johnstone, R. C. Kirkpatrick, J. W. Kislingbury, J. H. Laundy, J. W. Lovejoy, S. J. Marchant, E. W. Mauger, A. H. McMurdo, W. A. Messer, A. S. Mills, H. W. Moore, A. E. Moore, H. V. Mosley, J. Murray, A. W. Norman, Sir Charles Newton.

Lt.-Colonel Peck; Messrs. W. H. J. Pyne, R. M. T. Richards, H. E. Roharts, C. I. Routh, T. W. Royle, A. A. Ryan, W. J. Sawkins, F. Smith, H. E. Stratton, J. G. Symes, Major-General G. S. Szlumper, Messrs. E. A. W. Turbett, G. J. Walker, J. R. Ward, H. B. Webster, E. Wharton, D. Williams, H. E. O. Wheeler, J. H. Woodhead.

Alderman W. T. Venton, in proposing the toast of "Our Guests", made brief reference to each of the guests and expressed the pleasure of the Society and himself at their attendance.

Sir David Maxwell Fyfe, in response, said that the Society was founded on three bases: Service to the railways, hospitality, and a wonderful record of longevity; he counted it a great honour to be among the Society's guests. Referring to the railways he said his criticism of the present extent of functionalism and his advocacy of a greater degree of decentralisation, was founded on an admiration for the work done by the railway companies in the past and the performance of British railways during the war. He had been struck with admiration at the way in which wartime problems had been overcome and he believed that the fundamental capacity for knowledge and drive that had overcome these problems was sufficient to give the public the service it required, and without losing money at the same time. Many of those present had been concerned with rail transport in various parts of the World and in tribute to the work of British railwaymen overseas he expressed the opinion that the World would be the poorer without their services in the development of its waste spaces.

Alderman S. H. Marshall, who seconded the response, said he did not think the day of the railway's usefulness was past. The burden on the roads was too great and he looked for a railway renascence in Britain. He, like Sir Maxwell Fyfe, hoped to see decentralisation on the railways and he believed that the spirit of competition and of executive ability was still the finest thing in business today.

Sir Francis Joseph, in proposing the toast "Success to the Retired Railway Officers' Society", paid tribute to the spirit of the members. Their ability had been separated from the world of commerce and industry, but they were not allowing retirement to stifle their activities.

Major-General G. S. Szlumper, in reply, said that out of a membership of 173, there were 22 members of the Society over 80 years of age. The Society had seen many changes on the railways since its foundation in 1901.

Mr. R. M. T. Richards, proposing the toast "The President", said Alderman Venton had served his tenure of office with distinction. In conclusion Alderman Venton replied suitably.

Accidents on Railways, 1949

Lt.-Colonel G. R. S. Wilson's first annual report

The annual report* for 1949 of the Chief Inspecting Officer of Railways, Lt.-Colonel G. R. S. Wilson, shows that the year was outstanding in that no passenger was killed in a train accident, which is a record not achieved since 1908. In the previous year accidents resulted in the deaths of 39 passengers and in 1947 deaths from accidents were 93.

Passenger-journeys on British Railways totalled 1,634 million and were only 0.73 per cent. below the 1948 total of 1,646 million. There was a similar slight decrease in passenger-miles to 24,958 million as compared with 25,093 million in 1948. However, total train-mileage increased by 4.1 per cent. to 416 million, while there was an increase of 1.6 per cent. in net ton-miles to 21,848 million.

Altogether 1,176 train accidents were reported in 1949, compared with 1,293 and 1,388 in 1948 and 1947 respectively. Of these accidents 12 resulted in fatal injuries to persons other than passengers.

Analysis of Accidents

The causes are analysed as: Failure of the human element, 594; defective apparatus, 199; and other causes, such as running into snow or animals on the line and the misconduct of passengers and other persons, 463. Failures of permanent way, structures, and rolling stock totalled 4,062. These have declined steadily in the past few years, and are now below the 1935-39 average of 4,149, thus indicating the progress achieved in recovery of wartime maintenance arrears.

In movement accidents, other than train accidents, 44 passengers were killed as compared with 48 in 1948. Of this total 38 lost their lives through falls from platforms and trains and when entering or alighting from trains. The principal causes were misadventure and carelessness or misconduct on the part of the passengers themselves. Attention is drawn specially to the unwisdom of attempting to board or leave trains in motion, and to the danger of allowing young children to play with carriage door locks.

Fatalities in all movement accidents on rail, excluding trespassers and suicides, totalled 285. This was 55 less than in 1948 and well below the pre-war averages of 338 and 308 for the periods 1935-39 and 1930-34. The reduction was due primarily to the small number of persons killed in train accidents, namely, 12, of whom six were occupants of road vehicles at level crossings, and six were railway servants.

Attention is especially drawn to the increasing risks at a large number of occupation level crossings which, the Chief Inspecting Officer says, have in the course of years assumed the character, but not the legal status, of public road crossings. Although the number of accidents at occupation crossings in 1949, namely, 42, was a substantial reduction compared with 65 in 1948 and the average of 51 for 1935-39, this should not be allowed to distract attention from the urgent need to better conditions.

Deaths and injuries among railway servants in all movement accidents on rail numbered 188 and 2,625, respectively. These compare with the average of 198 killed and 2,576 injured for the period 1935-39. There were 123 fatalities while working, walking, or standing on the permanent-way on duty. Although two less than in 1948, the total is above the averages of 114 and 116 for the periods 1935-39 and 1930-34.

The Chief Inspecting Officer states that the whole of the decrease in the overall number of casualties was due to greater safety in operation, but that, while accidents due to technical defects and other causes showed an encouraging decline, there was not a corresponding improvement in the numbers resulting from failure of the human element. There was also a slight set-back in the almost continuous improvement since 1941 of the wartime peak in the figures for movement and non-movement accidents to railway servants. In many cases such accidents are due solely to want of personal care on the part of the individual worker, but they should not be regarded by anyone as inevitable, and the need is emphasised for continuous attention, at all levels, to the safety of the staff.

The report also states that the year was one of consolidation after the far-reaching organisational changes of 1948 and that the standardisation of equipment and methods was continued under central direction, with safety as a foremost consideration. Increased safety should also result from the comprehensive research organisation set up by the British Transport Commission to continue and expand the technical and other research pursued by the former companies.

British Railways are still handicapped, unfortunately, by shortage of skilled manpower in certain grades, materials, and money, but, although renewal of carriages was again retarded by investment limitation, the locomotive position was considerably improved in 1949 and a track renewal programme was carried out on a

* H.M. Stationery Office. Price 1s. 6d.

scale comparable to pre-war. Apart, however, from progress in track renewal, the problem of day-to-day maintenance remains an anxiety in view of the difficulty in obtaining and retaining men of the right type for the work.

Avoidable Accidents

The Chief Inspecting Officer concludes that there appears to be no valid reason, apart from ill fortune, why the good safety record of 1949 should not be maintained in spite of the factors which are retarding progress in many directions. He states, however, that there are still too many accidents which could be avoided by ordinary attention by railwaymen to duty, and emphasises that, whatever is done by providing modern safeguards, much will always depend on the men themselves and on the supervision and training they receive. Good leadership and encouragement of the right outlook are essential, but in the railway service, where so many men have to work for long periods without supervision, and often alone, the self-discipline of individuals, which is perhaps its highest form, is of supreme importance to the safety of the public and of themselves.

The report contains a number of summarised tables which cover the past 35 years and give the total casualties in all movement accidents on rail, with information about, among other things, traffic carried and staff employed.

RAILWAY BENEVOLENT INSTITUTION.—A special meeting of the Railway Benevolent Institution will be held at the Railway Clearing House, Eversholt Street, London, N.W.1, on December 15 at 4 p.m. to consider, and if thought fit, adopt the rules and by-laws set out in the draft which has been circulated. A resolution approving these will be submitted to and voted on by the officers' and servants' departments separately.

TRIAL RUNS OF DIESEL-ELECTRIC LOCOMOTIVE No. 10800.—On November 14 the British Railways new 827-h.p. diesel-electric locomotive No. 10800, designed by Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, made a trial run from Euston to Watford Junction and back, with a four-coach train of 124 tons. A maximum speed of 69·8 m.p.h. was reached at Bushey. Those present included: *Railway Executive*, Messrs. R. A. Riddles, Member; R. C. Bond, Chief Officer (Locomotive Construction & Maintenance); S. B. Warder, Chief Officer (Electrical Engineering); and S. E. Parkhouse, Chief Officer (Operating). *London Midland Region*: Messrs. E. S. Hunt, Assistant Chief Regional Officer; H. G. Ivatt, Chief Mechanical Engineer; J. W. Watkins, Operating Superintendent; F. W. Abrahams, Motive Power Superintendent; and George Dow, Public Relations & Publicity Officer.

North British Locomotive Co. Ltd.: Messrs. R. Arbuthnott, Managing Director, and R. H. Fett; *British Thomson-Houston Co. Ltd.*: Messrs. E. H. Ball, Managing Director, and L. Drucquer, Home Sales Manager; *British Thomson-Houston Export Co. Ltd.*: Mr. E. V. Small, Managing Director; *Westinghouse Brake & Signal Co. Ltd.*: Messrs. H. M. Hoather, Brake Equipment Engineer, and R. J. Hogben, Assistant Sales Manager; *Davey, Paxman & Co. Ltd.*: Mr. G. W. Bone, Director.

Another Home for Retired Railwaymen

A mansion at Woking renovated as a comfortable country home for old people

The success of "Missenden House" opened three years ago as a home for aged and retired railwaymen and their wives and widows (and described in our issues of September 26 and October 3, 1947) has led the Board of Management of the Southern Railway Servants' Orphanage & Homes for Old People to purchase and re-condition as a second such home "Wynberg," a mansion with nearly two acres of grounds opposite the Southern Railway Orphanage, Woking. It was bought in 1940, but was requisitioned during the war. Now renovated, it accommodates about 25 persons, according to the number of married couples. "Wynberg" is centrally heated throughout and each of the 19 bedrooms is equipped with hot and cold water. The accommodation is divided into single and double rooms, and larger bedrooms will sleep three or four. On the ground floor are a common sitting room and separate lounges for men and women, also a writing room. The house, with the reconditioning and furnishings has cost about £12,500, which the Board hopes to cover by donations over and above normal income; to this end it grants the right to name a room in either "Missenden House" or "Wynberg" to any donor who "buys" the room and its furnishings—£200 for a bedroom or £350 for a sitting room. The atmosphere in which the old people will live is intended to be that of "Missenden House," *i.e.*, a quiet, residential country hotel.

At the opening ceremony on November, Lord Hurcomb, Chairman of the British Transport Committee, replying to an address by Mr. G. T. Pheby, Chairman of the Board of Management, praised the work of "Missenden House" and of the Southern Railway Servants' Orphanage (both of which sprang from the L.S.W.R. Servants' Orphanage founded in 1885) and mentioned the encouragement to these undertakings given by Sir Eustace Missenden as General Manager of the Southern Railway. He then paid a tribute to the late Henry James O'Neill, Chairman of the Southern Railway Orphanage 1935-43. The Bishop of Guildford, the Rt. Rev. Henry Montgomery-Campbell, then dedicated the house. On behalf of the Southern Region, Mr. C. P. Hopkins, Chief Regional Officer, thanked Lord Hurcomb and the Bishop, and emphasised the "Southern" family spirit with which the Region, as successor to the Southern Railway, was still imbued. Lord Hurcomb unveiled a plaque by the main entrance in memory of Mr. James O'Neill, and was presented with a souvenir key by Mr. F. G. Price, Chairman of the Old People's Home Committee.

Opening of "Wynberg," Woking. Front row left to right: Mr. W. P. Allen, Sir Eustace Missenden, Lord Hurcomb (speaking), Mr. G. T. Pheby, the Bishop of Guildford, and Mr. C. P. Hopkins

Among those present were:—

Sir Eustace Missenden, Chairman, and Mr. W. P. Allen, Member of the Railway Executive; Messrs. F. Gilbert, Principal Staff Officer, B.T.C.; A. Bull, Chief Staff Officer London Transport, D. F. Gowan, Staff

Officer (Salaried Staff) Railway, F. J. Norris, Staff Officer, Docks & Inland Waterways, and G. E. Orton, Public Relations Officer, Road Haulage Executives: Messrs. W. T. Potter, President, and J. B. Figgins, Secretary, N.U.R.; G. B. Thorneycroft, Secretary, R.C.A.; Mr. A. G. Liston, Marine Engineer, Southampton Docks; Messrs. G. Morton, former Chief Financial Officer, Railway Executive; and R. M. T. Richards, formerly Deputy Chief Regional Officer, Southern Region; Mr. A. G. Evershed, Secretary-Superintendent, and Miss G. E. Groom, Matron, Southern Railway Homes for Old People; also the following officials of the Southern Region: Messrs. S. W. Smart, Superintendent of Operation; T. E. Chrimes, Motive Power Superintendent; R. G. Henbest, Estate & Rating Surveyor; Dr. L. J. Haydon, Chief Medical Officer; Messrs. C. Grasemann, Public Relations & Publicity Officer; J. Bridger, London Central, P. Nunn, London East, and W. H. Scutt, Acting, London West, Divisional Superintendents; and S. L. Furnivall, Divisional Engineer, Woking.

Compensation to Transport Undertakings' Employees

The Controlled Bodies (Compensation to Employees) Regulations, 1950, which came into operation on August 8, provide the machinery for payment by the British Transport Commission of compensation to employees of bodies that were completely controlled by one or more of the railway or canal undertakings nationalised under the Transport Act, 1947. Compensation is payable to transport workers who suffer loss of employment or loss or diminution of emoluments or pension rights or whose position is worsened as the result of nationalisation.

For purposes of administration of the Regulations, the British Transport Commission has, in accordance with paragraph 4 of the Scheme of Delegation of certain functions to the various Executives, delegated its functions in so far as they relate to persons who on December 31, 1947, *i.e.*, as at nationalisation, were employees of the bodies named in the Schedule given below:—

Part I—Railway Executive: Caledonian Steam Packet Co. Ltd.; Goole & Jersey Steamship Co. Ltd.; Hull & Netherlands Steamship Co. Ltd.; Sutcliffes (Continental) Limited; Lineside Estates Limited; Railway Sites Limited; Channel Islands Airways Limited; Associated British & Irish Railways Inc. (New York); Dundalk, Newry, & Greenore Railway Company.

Part II—Road Haulage Executive: Hay's Wharf Cartage Co. Ltd.; Pickfords Limited; Chaplins Limited; Arthur Batty Limited; Benefit Tyre Co. Ltd.; H. Bentley & Co. (Bradford) Ltd.; Coulson & Co. Ltd.; Crouchers Limited; Express Transport Service (Wellingborough) Limited; A. J. Hewett & Co. Ltd; Swift Parcel Delivery Service Limited; Hughes Bros. Limited; Shepard Bros. Limited; Venn & McPherson Limited; Removals & Storage Limited; Pickfords Colonial Inc. (New York); Pickfords S.A. (Paris); Carter Paterson & Co. Ltd.; Carter Paterson (Southern) Limited; South Coast Carriers Limited; Southern Carriers Limited; Carter Paterson (North Western) Limited; Liverpool Parcels Delivery Limited; T. & D. Carriers Limited; Karriers Parcels Delivery Limited; Carter Paterson (Midland) Limited; T. Ball (Leicester) Limited; Leicester & County Carriers Limited; London Parcels Delivery Limited; City & Suburban Carriers Limited; Herd & Gerner Limited; Bean's Express Limited; Norman E. Box Limited; Joseph Nall & Co. Ltd.; Manchester Storage & Transport Co. Ltd.; James W. Petrie Limited; Andrew Smith Limited; Wordie & Co. Ltd.; Herbert Davidson Limited; James Dickson (Transport) Limited; Dumfries & Galloway Transport Limited; John Russell & Son (Carriers) Limited; South Western Transport Limited; James Walker (Glasgow) Limited; Cartwright & Paddock Limited.

Part III—Docks & Inland Waterways Executive: Thomas Clayton (Paddington Limited; Erewash Canal Carrying Co. Ltd.; Grand Union Canal Carrying Co. Ltd.; Grand Union (Stevedoring & Wharfage) Co. Ltd.; Grandion Limited; Grand Union Estates Limited; Grand Union Transport Limited; Grand Union Warehousing Co. Ltd.

Part IV—London Transport Executive: London Passenger Transport Board Trustee Co. Ltd.; Metropolitan Railway (Pension Fund) Trustees Ltd.

Britannia Tubular Bridge Centenary

Commemorating the completion in 1850 of Robert Stephenson's bridge over the Menai Strait

The Act of Parliament for the Chester & Holyhead Railway was given the Royal Assent in July, 1844, but a special Act was necessary to authorise the Britannia Bridge, and this was passed on June 30, 1845. By 1846 Robert Stephenson, Chief Engineer of the line, was ready to commence work on his tubular bridge over the Menai Strait, and on April 10 of that year the foundation stone was laid by Mr. Frank Forster, the then resident engineer.

On March 5, 1850, Stephenson drove the last rivet, the 2,000,000th used on the bridge (and now kept whitened); on March 15 and 16 Captain Simmons, the Government Inspector, conducted tests of one of the twin tubes, and expressed complete satisfaction. Two days later, on March 18, the Britannia Bridge was opened for public traffic. The first passenger train to pass over was the 3 p.m. express from Holyhead, crowded with passengers anxious to be the first across the bridge. The train arrived at Euston Square Station at 11 p.m.; the bridge had made possible the reduction of journey time by an hour over that by the existing route, which involved double transhipment and conveyance by road between Bangor and Llanfair ("P.G."), in Anglesey, over Telford's suspension bridge. The railway to Holyhead was completed on October 19, 1850, when the second tube was opened for traffic. Most authorities give October 21 as the date of the opening of this tube, but the discrepancy is explained by a Chester & Holyhead Railway minute which shows that a passenger train passed through the second tube on October 19, its passage specially authorised by the Government Inspecting Officer, though the official opening took place two days later.

To commemorate the centenary, a plaque on the Caernarvonshire Abutment, at the south end of the bridge, was unveiled on November 3 by Colonel E. F. C. Trench, Chief Engineer of the L.N.W.R. (1906-23) and later of the L.M.S.R. (1923-27). The Britannia Bridge, he said, was the prototype of such wrought-iron railway bridges built throughout the world, and he paid a tribute to the genius of Robert Stephenson, to the courage of the shareholders of the Chester & Holyhead Railway, and to the high standard of maintenance of the bridge during the past 100 years. Robert Stephenson, he added, was the first Chief Engineer (1846-59) of the L.N.W.R. (in which the Chester & Holyhead was vested in 1858), and he himself was the last. Mr. V. A. M. Robertson, President 1949-50 of the Institution of Civil Engineers and

Colonel E. F. C. Trench unveiling the Britannia Tubular Bridge centenary memorial plaque on the Caernarvonshire Abutment

Chief Civil Engineer, Southern Region, said that the Britannia Bridge thrilled him more, as an engineering feat, than the Golden Gate bridge at San Francisco, built with equipment and technique far superior than those at the disposal of Robert Stephenson. Guests were given an opportunity of inspecting the bridge, over which flew the flag of the L.N.W.R.

Those present at the ceremony or entertained afterwards to luncheon at Bangor by the London Midland Region included:

Messrs. R. F. Summers, a former Director of the L.M.S.R.; G. L. Darbyshire, retired Chief Regional Officer, L.M.R.; E. S. Hunt, Assistant Chief Regional Officer, L.M.R.; J. Briggs, Civil Engineer, L.M.R.; J. Cunningham, District Engineer, and C. R. Irving, retired District Engineer, Bangor; F. H. Fisher, District Traffic Superintendent, Chester; D. S. M. Barrie, Public Relations Officer, Railway Executive; George Dow, Public Relations & Publicity Officer, L.M.R.; and G. M. H. Morris, Editor of the *Railway Service Journal*, whose forebears were concerned, as stonemasons, in the construction of the Chester & Holyhead Railway bridge.

L.M.R. ENGINEERING WORKS.—Passengers on the Euston-Rugby-Birmingham-Wolverhampton line may experience some delay during the next two months owing to important engineering works now in hand. These include the relaying of tracks in Watford tunnel at Rugby, and between Marston Green and Hampton-in-Arden; between Bescot and Darlaston; and the renewal of the drains at the water troughs at Castlethorpe. The latter is being carried out in three stages and the last is scheduled for completion in April next year.

Mr. Alfred Barnes on Waste in Transport

His belief that labour, capital, and resources employed exceed value given

The 31st Anniversary Luncheon of the Institute of Transport was held at the Connaught Rooms, London, W.C.2, on November 8. Mr. J. S. Wills, President of the Institute, was in the Chair, and the principal guests were Mr. Alfred Barnes, M.P., Minister of Transport, and Field-Marshal Sir William Slim, Chief of the Imperial General Staff. Among those supporting the Chairman were:—

Messrs. D. McKenna, F. A. A. Menzler (President, Institute of Actuaries); G. Cardwell (Chairman, Road Passenger Executive); Sir Reginald Hill (Chairman, Docks & Inland Waterways Executive); Mr. R. Kelso (Past President); Sir Gilmour Jenkins (Secretary, Ministry of Transport); Messrs. Stanley Adams (Chairman, Thos. Cook & Son, Ltd.); L. A. Schumer (Hon. Secretary Victorian Section); Sir Eustace Missenden (Chairman, Railway Executive); John L. Denman (Vice-President, Royal Institute of British Architects); Sir Frederick Handley Page (Past President); Sir W. Guy Ropner (President, Chamber of Shipping); Mr. D. R. Lamb (Past President); Lord Hurcomb (Past President; Chairman, British Transport Commission); Brig.-General Sir H. Osborne Mance (Immediate Past President); Lord Rusholme (Member, British Transport Commission); Dr. W. H. Glanville (President, Institution of Civil Engineers); Sir William Wood (Past President); Sir Archibald J. Gill (President, Institution of Electrical Engineers); Messrs. John Benstead (Deputy Chairman, British Transport Commission); E. A. Evans (Chairman, Automobile Division, Institution of Mechanical Engineers); Lord Latham (Chairman, London Transport Executive); Messrs. C. D. Spragge (Secretary, Royal Institute of British Architects); J. S. Nicholl (Past President); K. C. Bakhle (Chief Commissioner of Railways, India); G. S. Szlumper (Past President); C. A. Butler (Immediate Past Chairman, New South Wales Section).

Mr. Wills said that at these anniversary luncheons it was not expected of the Chairman that he should make a speech or raise any controversial matter. His duty was to introduce the two principal guests, the Minister of Transport and the Chief of the Imperial General Staff, both of whom were very well known to members of the Institute of Transport. Mr. Barnes had established a record for the length of his tenure of the office of Minister of Transport, and Sir William Slim had been Deputy Chairman of the Railway Executive on the establishment of that body before being recalled by the War Office.

Field-Marshal Sir William Slim paid tribut to the valuable work which had been performed by his Transportation Officers during the Burma Campaign and said that, when he became a Member of the Railway Executive, he had learnt something more of the complexity of operating a great transport system, and had learned to have a high respect for the efficiency, integrity, and generosity of railwaymen of all grades. Transport was the only way in which it was possible to translate thought into action. Railways were the basic factor in transport in a modern civilisation, and any country which permitted its railways to deteriorate was facing very grave risks. He

Presentation to Mr. George Morton

On behalf of the Railway Executive, Sir Eustace Missenden, Chairman, recently made a presentation to Mr. George Morton, who retired recently as Chief Financial Officer, Railway Executive

Left to right are the following Members and Officers of the Railway Executive: Messrs. David Blee, W. P. Allen, Members; H. L. Smedley, Legal Adviser & Solicitor, J. C. L. Train, Member; George Morton; V. M. Barrington-Ward, Member; Sir Eustace Missenden; Messrs. R. A. Riddles, Member; E. G. Marsden, Secretary; General Sir Daril Watson, Member

felt that there was a basic unity of outlook between transport men of all kinds and that the real problem facing transport administration was to dovetail the different parts into a workable whole.

Mr. Alfred Barnes said that usually he did not accept invitations to attend similar functions on two successive years. He had been a guest at the Institute luncheon of 1949, but when he received the invitation to the present one and saw that the President this year was his redoubtable opponent, Mr. Wills, he thought he had better attend because a closer association might be good for both of them.

He had a feeling that more labour, more capital and more resources were invested in transport in this country at the present time than that for which the nation was obtaining value. He could not produce any evidence or statistics to support this view, but it was a general opinion that he had formed since he became Minister of Transport. The nation, in present circumstances, could not afford any waste in its resources if it was to survive as a first-class power, and he suggested that the Institute of Transport might give some thought to the problem of how best to get rid of the waste.

Visit to Swindon Works by Princess Elizabeth

In the course of a visit to Swindon on November 15, for the town jubilee celebrations, Princess Elizabeth made a tour of inspection of the Western Region Locomotive and Carriage Works. It is 26 years since any of the Royal family visited Swindon Works, the last occasion being when King George V, accompanied by Queen Mary, made a tour of the works on April 28, 1924.

Messrs. R. A. Riddles and V. M. Barrington-Ward, Members of the Railway Executive, and Mr. Gilbert Matthews, Operating Superintendent, Western Region, travelled on the Royal train, and the party subsequently arrived at the Sheppard Street entrance to the works in the early afternoon. Princess Elizabeth was received by Mr. K. W. C. Grand, Chief Regional Officer, Western Region, who presented the following officers of the Western Region: Messrs. K. J. Cook, Mechanical & Electrical Engineer; W. N. Pellow, Motive Power Superintendent; H. Randle, Carriage & Wagon Engineer; H. G. Johnson, Carriage & Wagon Works Manager.

The tour began in the Carriage & Wagon Works, where the saw mill and the painting, trimming, sewing, polishing, finishing, and coach body shops were visited. A 700-ton veneering press used in the preparation of coach woodwork was working in the carriage finishing shop and coach bodies were being built on steel underframes.

During the visit to the Locomotive Works, where Mr. C. T. Roberts, Locomotive Works Manager, was presented to Princess Elizabeth, a visit was made to the iron foundry, in which all types of castings and mouldings are prepared.

Boiler drilling jigs, together with a 650-ton press for producing large boiler pressings were working in the boiler shop and in the engine testing plant a "Castle" class 4-6-0 locomotive was run at speed on the test bed and underwent boiler efficiency trials. In the erecting shops, 100-ton overhead cranes were in use in the construction of new 4-6-0 and 0-6-0 type engines. After visiting the wheel shop, the Princess saw a replica of the first G.W.R. engine *North Star*, built in 1837, and returned to the erecting shop, where she named the "Castle" class locomotive No. 7037, *Swindon*.

Contracts and Tenders

Below is given a list of orders placed recently by the South African Railways for the Cape Eastern electrification scheme:

Birmingham Railway Carriage & Wagon Co., Ltd.: 25 Type "T43M" (amended) motor coaches, third class, and vans.

Cravens Railway Carriage & Wagon Co., Ltd.: 9 Type "S46M" third-class motor coaches.

Metropolitan Cammell Carriage & Wagon Co., Ltd.: 6 Type "L48M" first-class motor coaches.

The Rhodesia Railways have recently placed the following contracts:

Birmingham Railway Carriage & Wagon Co., Ltd.: 80 bogie cattle-wagons.

Dorman Long (South Africa), Limited: 12 four-wheel dairy-wagons.

The Crown Agents for the Colonies, have recently placed the following orders for the Malayan Railways:

Cravens Railway Carriage & Wagon Co., Ltd.: 50 bogie high-side wagons.

Gloucester Railway Carriage & Wagon Co., Ltd.: 25 bogie covered goods wagons.

Metropolitan Cammell Carriage & Wagon Co., Ltd.: 60 four-wheel low-side wagons.

The following contracts have recently been placed by the Railway Executive:

Birmingham Railway Carriage & Wagon Co., Ltd.: 1,500 13-ton open high-side wagons.

Head, Wrightson & Co., Ltd.: 52 50-ton bogie rail wagons; 37 50-ton bogie combined rail, sleeper and ballast wagons.

The Western Australian Government has recently placed the following contracts:

Birmingham Railway Carriage & Wagon Co., Ltd.: 250 "HC" type low-side wagons.

Cravens Railway Carriage & Wagon Co., Ltd.: 600 "GF" type high-side wagons.

Metropolitan-Cammell Carriage & Wagon Co., Ltd.: 500 sets of materials for "G11" type medium-side open wagons.

GLOUCESTER RAILWAY CARRIAGE & WAGON CO. LTD.—In his statement to the stockholders of the Gloucester Railway Carriage & Wagon Co. Ltd., Sir Leslie Boyce, Chairman & Managing Director, says that for the year ended May 31 last the trading profits of the group were £333,000. This is a record and compares with £267,000 for the previous year. After deducting £158,000 for tax, the net profit of the group amounted to £142,403, of which the parent company's proportion was £131,764, compared with £95,398 last year. These satisfactory results have enabled the directors to recommend the maintenance of a dividend of 15 per cent., less tax; that £50,000 be placed to revenue reserve; £20,000 to pensions reserve; and that the amount carried forward on profit and loss account be increased from £15,217 to £22,956. The increase in the profits was mainly due to the bold policy of expansion carried out since the war, which had resulted in a much greater productive capacity. Their subsidiaries, Gloucester Foundry Limited and Hatherley Works Limited, and associate, Wagon Repairs Limited, had each completed another successful year. In the year under review they had acquired the whole share capital of Wm. Gardner & Sons (Gloucester) Ltd., which had also shown good profits.

Notes and News

Draughtsman (Mechanical) Required.—Applications are invited for the post of draughtsman on the South African Railways. See Official Notices on page 447.

Institution of Locomotive Engineers Annual Luncheon.—The 1951 annual luncheon of the Institution of Locomotive Engineers will be held at the Dorchester Hotel, Park Lane, London, W.1, on Friday, March 9.

Vacancy for Carriage & Wagon Superintendent.—Applications are invited for the post of carriage & wagon superintendent, between 35 and 40 years of age, on the Gold Coast Railways. See Official Notices on page 447.

Assistant Chief Mechanical Engineer Required.—Applications are invited for the post of assistant chief mechanical engineer on the Central Paraguay Railway. Knowledge of Spanish essential. See Official Notices on page 447.

Return of Railway Station Fruit Machines.—At the beginning of the war, machines for the sale of fruit and other foods were withdrawn from stations on British railways, but now they are beginning to make an appearance once more. The photograph

An automatic fruit machine recently installed at Liverpool Street Station

reproduced above illustrates a specially designed automatic machine, finished in chromium, recently installed in London at Liverpool Street Station by Empire Stores (Produce) Limited, 5, Great Newport Street, London, W.C.2, the first entirely automatic to go into operation for ten years.

Withdrawal of Wooden Circle Line Cars—The former Metropolitan Railway wooden cars, which for many years have been working the London Transport Circle Line services are being replaced by Metadyne sets made available by recent developments on other London Transport lines. It is anticipated that all 90 of the wooden

OFFICIAL NOTICES

SITUATION VACANT.—District Traffic Superintendent. Salary £1,000 per annum. Knowledge of Spanish essential. Apply to Secretary, THE PERUVIAN CORPORATION LIMITED, 144, Leadenhall Street, London, E.C.3.

SITUATION VACANT. ENGINEERING ASSISTANT, Permanent Way Department, Central Railway, Peru. Salary from £1,000 per annum. Knowledge of Spanish essential. Apply to Secretary, THE PERUVIAN CORPORATION, LIMITED, 144, Leadenhall Street, London, E.C.3.

APPLICATIONS are invited for the post of Assistant Chief Mechanical Engineer on a 3 years contract at a salary of Guaranies 1,300 per month plus one month's salary as annual bonus with free unfurnished house. £1 equals 22·54 Guaranies. Knowledge of Spanish essential. Reply to SECRETARY, PARAGUAY CENTRAL RAILWAY CO. LTD., 12/13, South Place, London.

LONDON Consulting and Inspecting Engineers invite applications for the following appointments in connection with the construction of locomotives and railway wagons in Glasgow:—*(a)* Assistant Engineer—Mechanical, for employment in Glasgow office; *(b)* Inspectors to supervise inspection and erection of locomotives; *(c)* Inspectors to supervise inspection and erection of steel wagons. Candidates must have served a recognised apprenticeship with a firm of locomotive builders or in a British Railways' locomotive works and have been subsequently employed on locomotive or wagon construction for a period of not less than 5 years. Inspection experience is essential. It is desirable that candidates for post *(a)* should be Corporate Members of the Institution of Mechanical Engineers; for posts *(b)* and *(c)* technical education to H.N.C. standard. Age 30 to 40 years. Applications giving full details of apprenticeship, experience, and salary required to Box 0385, WM. PORTEOUS & CO., Glasgow.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with International traffic, principally on the European Continent. 2*s.* By post 2*s.* 2*d.* *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

His Majesty's Colonial Service

GOLD COAST

A VACANCY exists for a Carriage and Wagon Superintendent on the Gold Coast Railways. The post is permanent and pensionable. The salary scale is £720 (for three years) to £1,300, including expatriation pay. The point of entry will depend on War service, qualifications and experience. In addition a cost-of-living allowance of £114 to £150 per annum is payable. Candidates must be between 35 and 40 years of age and be Corporate Members of the Institution of Mechanical Engineers or hold equivalent qualifications exempting from Parts "A" and "B" of the examination for Associateship Membership. They must also be fully experienced in design, maintenance, building and running of carriage and wagon rolling stock and should be capable of organising the efficient running of the Carriage and Wagon Department of the Gold Coast Railways. Partly furnished quarters are provided at a rent of £75 or £90 per annum, according to salary. Free passages are provided for the officer and wife, if married, and children up to three in number under the age of nine years, on first appointment and on leave. Income tax is at local rates which are very much lower than those in the United Kingdom. The tour of service is from 12 to 24 months. Leave on full salary is granted after normal tours of 18 months at the rate of seven days for each completed month of resident service. Outfit allowance of £30 to £60. Free medical attention. Candidates should write forthwith for a Form of Application and further particulars to THE DIRECTOR OF RECRUITMENT (COLONIAL SERVICE), Sanctuary Buildings, Great Smith Street, S.W.1, quoting reference number 27333/23 and giving brief details of age, qualifications and experience.

DIRECTORY OF RAILWAY OFFICIALS & YEAR BOOK. A useful reference book for railway officers, engineering firms, and all who do business with railways. The only Directory which enables one to find the right railway and the right officer at the right moment. Issued July each year. Price 30*s.* net. Tothill Press Limited, 33, Tothill Street, London, S.W.1.

BRITISH RAILWAYS (Western Region) require for London Office designers for reinforced concrete bridges and structures. Salary up to £630, according to age and experience. Knowledge of pre-stressed concrete desirable. Permanency and prospects of advancement for right man. Application with age, details of previous experience, etc., to Box 888, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

VACANCIES exist in London Office of British Railways (Western Region) for the following:—*(a)* Structural Draughtsman for preparation of designs and detail drawings of bridges; and *(b)* Steelwork Surveyors for examination and estimation of strength of existing bridges. Previous experience desirable. Good prospects of permanency for right men. Application stating age and details of technical education and experience to Chief Engineer, Paddington Station.

OFFICE OF THE HIGH COMMISSIONER FOR THE UNION OF SOUTH AFRICA

VACANCY FOR DRAUGHTSMAN (MECHANICAL)

APPLICATIONS are invited for the post of Draughtsman (Mechanical), South African Railways, on the permanent establishment of the High Commissioner for the Union of South Africa in London. Salary scale: £350 by £25 to £550 per annum, plus a temporary cost-of-living allowance which at present is £208 p.a. for married and £50 p.a. for single men. 2. Commencing salary will be determined according to previous experience. 3. The duties of the post entail the checking of working drawings for all classes of railway mechanical equipment, the scrutiny of inspectors' reports and handling of technical correspondence. 4. Applications from qualified draughtsmen, age not exceeding 35 years, stating full details of qualifications and experience, should be addressed to reach the Staff Clerk, South Africa House, Trafalgar Square, London, W.C.2, not later than December 31, 1950.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8½ in. by 5½ in. 82 pp. Diagrams. 5*s.* By post 5*s.* 3*d.* *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Circle Line cars will be replaced by the end of this year and the first of the sets transferred from the Metropolitan Line is now in service on the Circle Line. The rearrangement has been made possible by the introduction on District Line Services of "R" type stock, described and illustrated in our December 23, 1949, issue. As a result 1920 "F" stock has been transferred from the District to the Metropolitan Line and cars with Metadyne control gear and air-worked doors have been made available for transfer to the Circle Line. The Metadyne stock was described in our September 3 and September 17, 1937, issues.

Southern Railway Dramatic Society.—On November 22, at 6.45 p.m., the Southern Railway Dramatic Society is presenting "A Damsel in Distress," a comedy by Ian Hay and P. G. Wodehouse, at the Scala Theatre, Charlotte Street, London, W.1.

Presidential Address to Institution of Locomotive Engineers.—The Presidential Address to the Institution of Locomotive Engineers, was delivered at the Institution of Mechanical Engineers, Storey's Gate, Westminster, on November 16. The address was given by Mr. R. A. Riddles, President, and not as shown in our October 20 & 27 issues.

Institute of Transport—Mr. F. Q. den Hollander, President of the Netherlands Railways, will present for discussion a paper on "The Future of Railways" at a meeting of the Institute of Transport on Monday, November 20, at 5.45 p.m. in the Jarvis Hall (R.I.B.A.), 66, Portland Place, London, W.1; no tickets will be required for admission.

London Buses Return from Tour of Europe.—Four London buses and their crews which have been touring eight European countries to advertise the Festival of Britain were welcomed on their return by the Foreign Secretary, Mr. Ernest Bevin, who said they had carried out a good piece of publicity and helped to create a feeling of friendship. Since leaving England on July 28 the buses have covered 4,000 miles in Norway, Sweden, Denmark, Holland, Bel-

London Transport Art Exhibition

Lord Latham, Chairman of London Transport, opened on November 4 the fourth London Transport Art Group Exhibition at Charing Cross District Line Station, and in the photograph reproduced above is seen inspecting the exhibits with Mr. J. Porter, Secretary of the Art Group

gium, Germany, Luxembourg, and France, being inspected by 122,000 people.

Seat Reservation.—Due to a printing error, the word "not" became substituted for "sat" in the first paragraph of the letter by Mr. R. G. Oakley in our October 6 & 13 issue. The second sentence in this paragraph should read: "The more experienced travellers . . . sat in the 'reserved' seats, but others went up and down the train, or sat uncomfortably between the empty corners."

Docks & Inland Waterways Executive Visit to Dundee.—Members of the Docks & Inland Waterways Executive are visiting Dundee today, November 17, to meet representatives of the Dundee Harbour Trust and other interests concerned with the operation and use of the port. Members previously visited Dundee in April last year. The Executive is represented on this occasion by Sir Reginald Hill, Chairman, Mr. John Donovan, and Sir Hector McNeill.

Chilian Transandine Railway.—N. M. Rothschild & Sons have been instructed by Caja Autónoma de Amortización de la Deuda Pública to offer to purchase for cancellation the whole of the Chilian Transandine Railway 7½ per cent. first mortgage debenture stock at £27 per £100 nominal of stock. The offer was conditional on acceptance not later than November 13 by holders of not less than 50 per cent. of the stock. The stock was issued at 96½ per cent. in January, 1923, and the amount outstanding at June 1, 1949, was £144,521.

Aberdeen Port Recommendations.—The British Transport Commission has concurred in the recommendation of the Docks & Inland Waterways Executive that from the point of view of future efficiency more permanent arrangements should be made for the administration of the port. The B.T.C. has also requested the Executive to undertake consultations with the interests concerned with a view to drawing up a scheme for this purpose. Members of the Inland Waterways Executive visited Aberdeen on November 15 and 16 to consult local interests.

School of Gas Turbine Technology Opened—The new premises of the school of Gas Turbine Technology at Farnborough, Hants., was opened by Mr. G. R. Strauss, Minister of Supply, on October 17. Mr. Strauss, introduced by Sir William Stanier, Chairman, Power Jets (Research & Development) Limited, said that this organisation was carrying out important work in the national interest and its activities were not as widely known as they should be. Its main tasks were to exploit various patents held by the Government and to make known throughout the world the possibilities of gas-turbine power. Evidence showed that faith in the future of the gas turbine was fully justified and he was convinced that it had as great a future in industry as in aeronautics. The sooner its possibilities were fully realised the greater would be its contribution to industrial efficiency and economy. Mr. Strauss referred to the increasing field to which the gas turbine is being applied and said that a particularly valuable characteristic was its ability to use low-grade fuel. He also paid a tribute to Sir William Stanier whose responsibility it was to foster and develop the use of gas turbines in industry. Those present included Mr. W. E. P. Johnson, Managing Director, Power Jets (Research & Development) Limited, and Mr. David Hardman, Parliamentary Secretary to the Minister of Education.

Railway Stock Market

Business in stock markets has been quite well maintained, but the emphasis switched to industrial shares and other sections tended to be irregular owing to profit-taking. Commodity shares turned lower because of sharp fluctuations in tin and rubber, while British Funds eased on the disappointing result of the conversion offer in respect of the £209,000,000 of National War Bonds (1949-51), only £88,000,000 having been converted into the new 3 per cent. Funding stock; these bonds are largely held in the money market, where the new Funding stock is apparently too long-dated for requirements. Nevertheless, the prevailing city view is that over the next few months gilt-edged are more likely to rise than fall, also that important new issues may be planned for the early part of next year. A big defence loan is still regarded as possible, and if all goes according to Government plans, some £350,000,000 of nationalisation steel stock will be issued in February, 1951. Moreover, British Transport is believed to be in need of more money; it would not be surprising if an issue of as much as £100,000,000 were to be made early in the year.

The better demand for industrial shares is due to several factors. Leading industrials offer quite good yields which will become more attractive if British Funds rise and the yields on the latter are consequently reduced still further. Even if there is a further increase in taxation, a wide range of companies, notably those concerned in re-armament, should be able to maintain dividend payments in future.

In foreign rails United of Havana stocks reacted sharply on the news that it has so far been impossible to get the Cuban authorities to meet the company's wishes, but it is felt that matters cannot be allowed to drift and that eventually a take-over offer is the only logical outcome; current market prices are probably below any fair and reasonable take-over offer; and stocks, though they must be regarded simply as a speculation, may have interesting possibilities as more than a short-term holding. After reacting sharply, United of Havana 1906 debentures have become more active and have strengthened moderately to 16¼.

Leopoldina stocks have been dull, with few buyers about. It is realised that it may be six months or more before stockholders are likely to have their pay-out money; but in all cases it seems that the pay-outs will be above current market prices and that sooner or later Leopoldina stocks may attract a good deal more attention. The ordinary stock has changed hands around 9½, the preference was 23½, the 4 per cent. debentures 88½ and the 6 per cent. debentures 129. Leopoldina Terminal 5 per cent. debentures were 84½ and the ordinary units 1s. 4½d. There have been sharp fluctuations in San Paulo 10s. units which are 15s. 6d. at the time of going to press. Brazil Rail gold bonds were 41.

Antofagasta ordinary were 7 and the preference stock 42½. Bolivar "C" debentures remained at 61, but La Guaira ordinary stock eased to 80½. Manila "A" bonds were 72 and the preference shares 7s. 6d. Taltal shares held their recent improvement and changed hands around 16s. 6d. Canadian Pacifics have been steadier at 35¼ with the preference stock 70¼ and the debentures 98½.

Road transport shares became rather more active at higher prices. Southdown strengthened to 116s. 3d., Lancashire Transport were 70s. and West Riding 60s. B.E.T. deferred stock rose to £490.

Iron and steel shares recorded only minor fluctuations, and shares of companies scheduled for nationalisation were inclined to move still further below their take-over prices. There has been more selling by holders not wishing to take up the nationalisation steel stock planned to be issued next February. Buyers, however, have been about on calculations that some steel shares may be regarded as an attractive indirect means of acquiring an interest in British Funds. Among shares of companies out of the nationalisation schedule, Guest Keen at close on 50s. remained active on higher dividend possibilities. T. W. Ward rose further to 68s. 3d.

Shares of locomotive builders and engineers again displayed firmness. Vulcan Foundry were 24s. 3d., Beyer Peacock 23s., North British Locomotive 19s. 10½d. while Gloucester Wagon rose further to 65s. Wagon Repairs 5s. shares were 16s., Hurst Nelson 58s. 9d., Birmingham Wagon 30s. 10½d. and Charles Roberts 96s. 3d. Colliery shares were active at higher prices on latest estimates of break-up values.

Traffic Table of Overseas and Foreign Railways

	Railway	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1948/49	No. of week	Aggregate traffics to date: Total 1949/50	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta ...	811	5.11.50	65,990 —	6,530	44	2,902,454 —	5,170
	Costa Rica ...	281	Sept., 1950	c926,567 +	c49,730	13	c3,345,871 +	c436,566
	Dorada	70	Sept., 1950	40,872 +	8,687	39	353,824 +	88,794
	Inter. Ctl. Amer. ...	794	Sept., 1950	$1,000,438 +	$70,814	39	$10,227,283 +	$696,390
	La Guaira	22½	Sept., 1950	868,726 —	$39,529	39	$725,535 —	$241,943
	Nitrate	382	15.8.50	10,816 —	8,656	32	286,336 +	6,203
	Paraguay Cent. ...	274	3.11.50	£182,014 +	£38,327	18	£3,464,722 +	£867,110
	Peru Corp. ...	1,050	Sept., 1950	$7,842,000 +	$2,973,300	13	$23,447,000 +	$8,957,910
	,, (Bolivian Section)	66	Sept., 1950	Bs.15,024,000 +	Bs.3,437,840	13	Bs. 30 509,000 +	Bs. 619,730
	Salvador	100	Aug., 1950	c88,000 +	c7,000	9	c193,000 +	c20,000
	Taltal	154	Sept., 1950	$1,710,281 +	$777,354	13	$4,478,656 +	$1,519,236
Canada	Canadian National†	23,473	Sept., 1950	17,366,000 +	2,452,000	39	132,187,000 +	10,339,000
	Canadian Pacific† ...	17,037	Sept., 1950	12,237,000 +	1,453,000	39	90,971,000 +	1,733,000
Various	Barsi Light* ...	167	Sept., 1950	18,540 +	652	26	177,870 —	1,515
	Egyptian Delta ...	607	31.8.50	18,623 —	1,218	22	252,719 —	22,869
	Gold Coast ...	536	Sept., 1950	217,274 +	11,248	27	1,387,568 —	10,950
	Mid. of W. Australia	277	Aug., 1950	38,425 +	9,587	9	72,081 +	22,381
	Nigeria	1,900	Jan., 1950	502,360 +	38,978	44	5,017,814 +	266,573
	South Africa ...	13,347	14.10.50	1,709,219 +	145,240	28	46,381,082 +	4,560,294
	Victoria	4,744	July, 1950	1,709,297 +	711,561	4	—	—

Receipts are calculated at 1s. 6d. to the rupee

† Calculated at $3 to £1